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04849

The Hawk T1A is a two-seat training aircraft that is also used by the RAF for ground attack and as a light interceptor. This successful jet trainer distinguishes itself with incredible manoeuvrability, outstanding performance and robust construction.

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Build Your Dream!

First Blossom of Spring

Welcome this month to a new contributor, Mr Mike Williams, whose work we haven't featured before, and whose piece on the Ohka captured my imagination during the Editorial process to the extent that I now find myself hankering after all things Pacific, and if two dozen projects don't get sidelined within the next week or so in favour of a George or a Betty then I will be very surprised.

That Mike's piece arrived at the same time as Andy Evans' Airwars episode on the JASDF was pure

coincidence. I am particularly pleased with this latter as the JASDF is a mysterious self-contained facet of contemporary aviation that makes for a fascinating study, and for those like Yours Truly who like to build collections, the possibilities it offers are tempting indeed – a more or less complete selection in fewer than ten models, and a unique range of shades and camouflage markings – those blue F-2s are like nothing else! – that will make an eye-catching and colourful display.

Perhaps it was the strange relationship between the Ohka and the current crop of UAVs that gave me pause – opposite extremes in the technology of precision bombing, the



one so sparing in its use of aircrew, the other so implacably not? Must have left the lid off the liquid poly again...

Gary Hatcher

Editor
Model Aircraft



In this Issue

48 IPMS UK

62 Show Report
Cosford Compendium
By Andy Evans



66 Kit News

68 Accessory News

70 Decal News

77 Events

78 Books

80 Shop & Web Guide

82 And Finally

Cover Artwork by John Fox
www.avroart.com



4 Air Wars - Air Arms

Changing Times
Japan's Air Self Defence Force
By Andy Evans



16 Sea Cat

Airfix's Lynx in 1/48
By Andy McCabe



20 Jinrai Butai

(Divine Thunder Corps)
Modelling a 1/48 'Ohka'
By Mike Williams



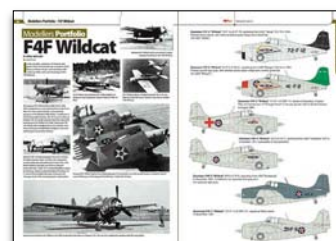
26 RAAF'S Heavy Lifters

Boeing C-17A Globemaster IIIs in RAAF Service.
By Mike Mirkovic



32 The Supermarine Spitfire in Foreign Service

Part 2. Continuing our in-depth scale survey
by Robert Humphreys



38 Modellers Portfolio

Peter Scott charts the evolution of US Navy wartime colours and markings with colour profiles and scale drawings of the F4F Wildcat.



50 Long Time Passing

Revell's 1/32 Tornado F.3...upgraded
By Gordon Scott



56 KFIR

Israel's Lion Cub
By Raymond Ball



74 Workbench

More modeling miscellany
With Trevor Pask



Japan's Air Self-Defence Force

By Andy Evans

The Japan Air Self-Defence Force or JASDF is the aviation branch of the Japanese Defence Forces and is responsible for the protection of Japanese airspace and other aerospace operations. The JASDF carries out regular Combat Air Patrols around Japan, whilst also maintaining an extensive network of ground and air early warning radar systems. The JASDF also has its own aerobatic team, known as the 'Blue Impulse'. In recent times the JASDF has been involved in humanitarian and UN peacekeeping operations and operates 805 aircraft, 424 of which are classed as fighters.

Before the formation of the JASDF after World War II, Japan did not have a separate air force, as aviation operations were carried out by the Imperial Japanese Army Air Service, and the Imperial Japanese Navy Air Service. Following World War II the Imperial Japanese

Army and Navy were dissolved and replaced by the Japan Self-Defence Force following the passing of the 1954 Self-Defence Force Law, with the JASDF as the aviation branch.

Major units of the JASDF are the Air Defence Command, Air Support Command, Air Training Command, Air Development and Test Command, and Air Materiel Command. The Air Support Command is responsible for direct support of operational forces in

rescue, transportation, control, weather monitoring and inspection. The Air Training Command is responsible for basic flying and technical training. The Air Development and Test Command, in addition to overseeing equipment research and development, is also responsible for research and development in such areas as flight medicine. The Air Defence Command has northern, central, and western regional headquarters located at Misawa, Iruma, and Kasuga, respectively, and



One of the latest US-2 amphibians



A trio of Mitsubishi T-2s Taxi out

the Southwestern Composite Air Division based at Naha on Okinawa. All four regional headquarters control surface-to-air missile units of both the JASDF and the JGSDF located in their respective areas.

The JASDF maintains an integrated network of radar installations and air defence direction centres throughout the country known as the 'Basic Air Defence Ground Environment'. In the late 1980s, the system was modernised and augmented with E-2C Hawkeye AWACS early warning aircraft, and latterly E-767s. The nation relies on fighter-interceptor aircraft and surface-to-air missiles to intercept hostile aircraft. Both of these systems were improved from the beginning of the late 1980s, and their outmoded aircraft were replaced in the early 1990s with more sophisticated models.

The JASDF also provides air support for ground and sea operations of the Japan Ground Self-Defence Force (JGSDF) and the Japanese Maritime Self-Defence Force (JMSDF) and air defence for bases of all the forces. Although support fighter squadrons started being modernized in 1989, they lacked precision-guided weapons for support of ground operations and attacks on hostile ships, and JASDF pilots receive little over-water flight training to prepare for maritime operations. Base defences were upgraded in the late 1980s with new surface-to-air missiles, modern anti-aircraft

artillery and new fixed and mobile aircraft shelters. The JASDF is not allowed to have strategic bombers as that would go against the 'self-defence only' policy.

The JASDF operate an eclectic mix of US-designed and indigenously built aircraft, which range from the Mitsubishi-assembled F-15J Eagle fighter to the Kawasaki C-1 transport. So, here is a brief look at the JASDF aircraft and operations.



The Mitsubishi F-2 is based on the F-16 'Agile Falcon' concept



The JASDF also operated the RF-4EJ

Mitsubishi F-2

The Mitsubishi F-2 is a multi-role fighter manufactured by Mitsubishi Heavy Industries and Lockheed Martin, with a 60/40 split in manufacturing between Japan and the USA. Production started in 1996 and the first aircraft entered service in 2000. The first seventy-six aircraft entered service in 2008, with a total of ninety-four airframes under contract. Work began on a new FS-X program, with a memorandum of understanding between Japan and the United States that would lead to an aircraft based on the F-16 Fighting Falcon, and in particular the 'Agile Falcon' proposal. The F-2 therefore is essentially a version of the F-16 'Agile Falcon' - originally a plan for an enlarged F-16 - which was passed over by the US in favour of an all-new JSF fighter program. The F-2 used the wing design of the F-16 'Agile Falcon' with updated electronics and was intended as a cheap counter to the then emerging threat of the Su-27 and MiG-29. However the unit cost was roughly four times that of a Block 50/52 F-16.

The F-2's maiden flight was on 7 October 1995, and later that year, the Japanese government approved an order for 141 (cut to 130), to enter service by 1999. However, structural problems resulted in service entry being delayed until 2000, and because of issues with cost-efficiency, orders for the aircraft were curtailed at ninety-eight in 2004, and the last of the aircraft was delivered to the Defence Ministry on 27 September 2011. On 7 February 2013, two Russian Su-27s briefly entered Japanese airspace off Rishiry Island near Hokkaido, flying south over the Sea of Japan, before turning back to the north. Four F-2s were scrambled to confirm the Russian planes visually, warning them by radio to leave their airspace. A photo taken by a JASDF pilot of one of the two Su-27s was released by Japan, although Russia denied the incursion, saying the jets were making routine flights near the disputed Kuril Islands.



A Mitsubishi F-2 - its F-16 lineage is very clear!



Some F-15s also serve in the 'Aggressor' role and as such can be seen painted in some very eye-catching colour schemes

Mitsubishi F-15J/DJ Eagle

The Mitsubishi F-15J/DJ Eagle was produced under licence by Mitsubishi Heavy Industries and the subsequent F-15DJ and F-15J Kai variants made Japan the largest export customer of the F-15 Eagle outside the United States. During mid-1975, Japan looked at the McDonnell Douglas F-15 Eagle as one of thirteen candidates for the replacement fighter of the F-104DJ Starfighter and F-4EJ Phantom. A single-seat F-15C and a twin-seat F-15D were evaluat-

ed at Edwards AFB, and by December that year, the F-15 was announced the winner, with the government intending to purchase 187 F-15J/DJs. By April 1978, Mitsubishi Heavy Industries was designated as the primary contractor and licensing for the F-15C/D was agreed.

The JASDF acquired 203 F-15Js and twenty F-15DJs, of which two F-15Js and twelve F-15DJs were built by McDonnell Douglas in the USA. Dubbed the 'Peace Eagle' program, the first F-15J built in St. Louis made its first flight on 4 June 1980,

and was delivered to Japan on the 15 July. Additionally, eight F-15Js were manufactured in large components and shipped to Japan for final assembly by Komaki, a division of Mitsubishi, with the first of these aircraft #12-8803 making its maiden flight on 26 August 1981. In late 1981, the first F-15J/DJ aircraft were sent to 202 Squadron, which was reorganised as an Eagle FTU and renamed 23 Flying Training Squadron at Nyutabaru AB in December 1982. In March 1984, new F-15Js began replacing the 203 Squadron F-104Js at Chitose, located across the La Perouse Strait from the Soviet fighter



A pair of JASDF F-4s take to the sky as upgraded F-4EJ Kai Phantoms

base at Sakhalin Island. F-15Js have been equipped with the Japanese-built AAM-3 missile, an improved version of the AIM-9 Sidewinder, and in the guise of the F-15J Kai, a modernised version of the F-15J, the fleet is now being generally upgraded to keep the aircraft in fighting trim. The APG-63(V)1 radar has also been retrofitted to some eighty F-15Js, and this new radar will support the AAM-4 missile, the Japanese answer to the AMRAAM, and the helmet-mounted sight will support the AAM-5 dog-fighting missile, which will replace the AAM-3. Some F-15s also serve in the 'Aggressor' role and as such can be seen painted in some very eye catching colour schemes.

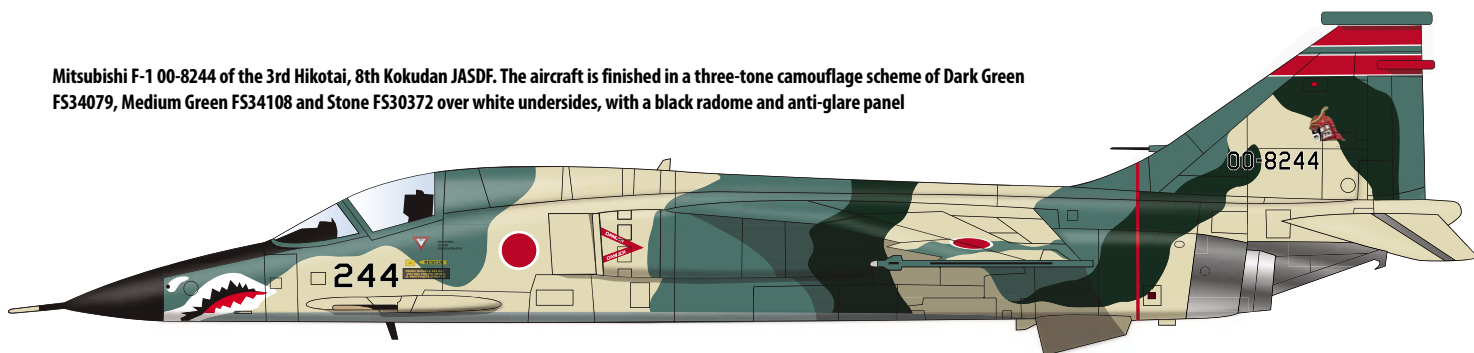
F-4EJ and RF-4EJ Phantom

From 1968, the JASDF purchased a total of 140 F-4EJ Phantoms and Mitsubishi built 138 under licence and a further fourteen RF-4Es were purchased. Of these, ninety-six F-4EJs have since been modified to the F-4EJ Kai standard and fifteen F-4EJs have converted to RF-4 reconnaissance aircraft with similar upgrades to the F-4EJ Kai.

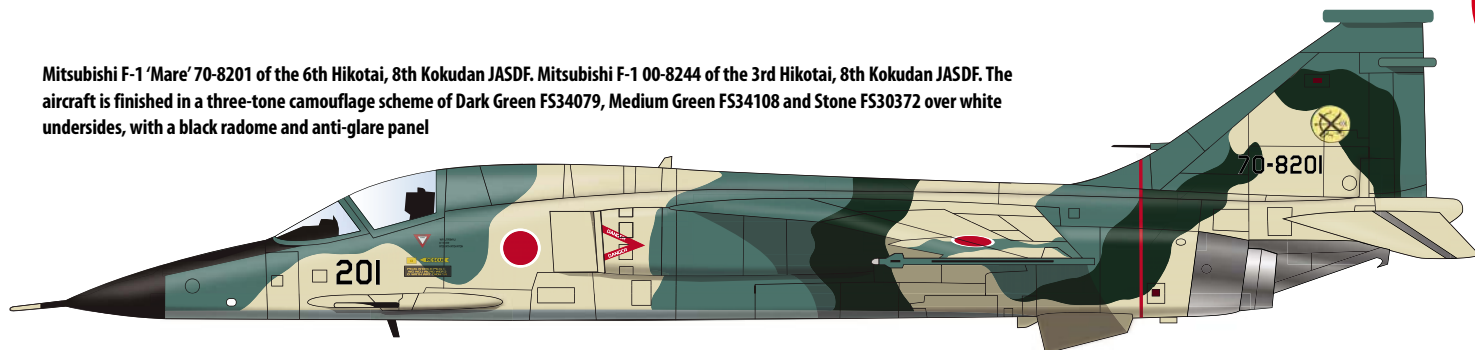


A pair of JASDF Eagles get airborne

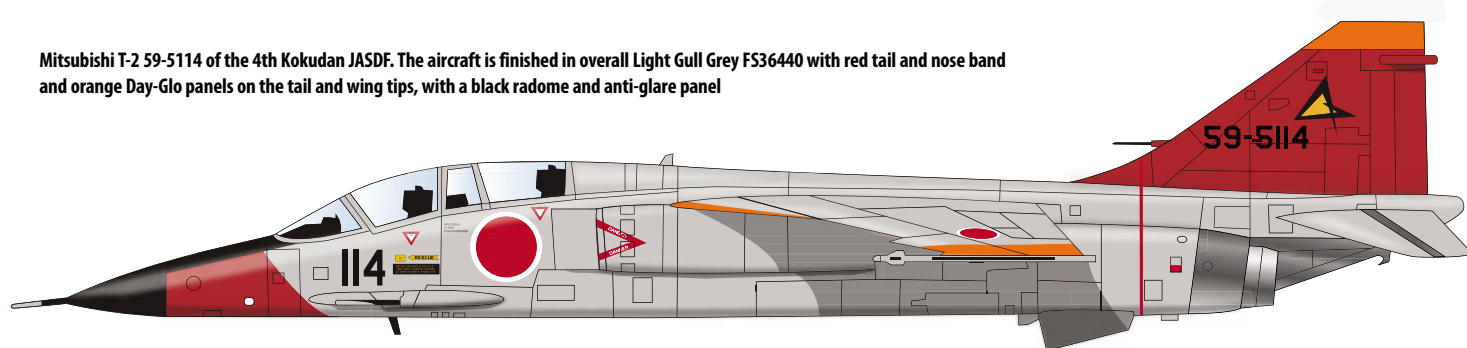
Mitsubishi F-1 00-8244 of the 3rd Hikotai, 8th Kokudan JASDF. The aircraft is finished in a three-tone camouflage scheme of Dark Green FS34079, Medium Green FS34108 and Stone FS30372 over white undersides, with a black radome and anti-glare panel



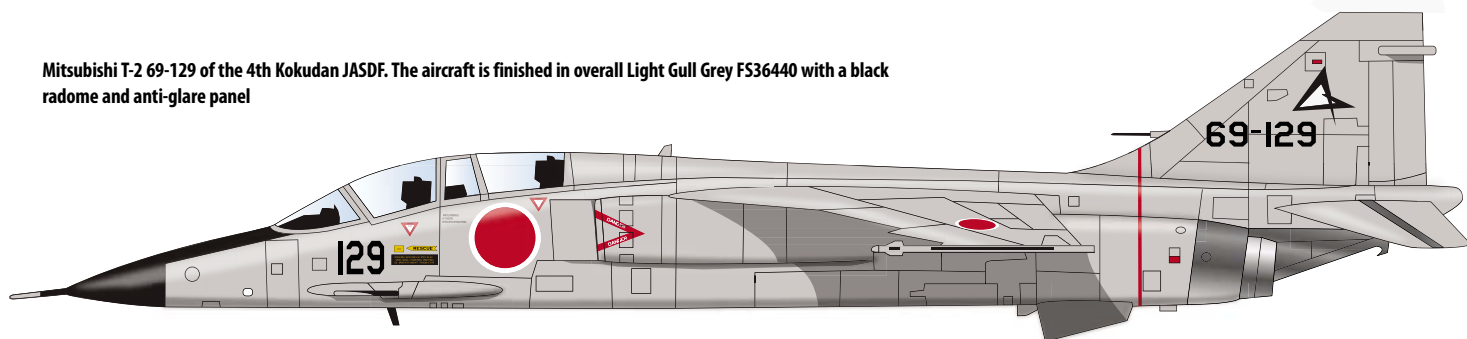
Mitsubishi F-1 'Mare' 70-8201 of the 6th Hikotai, 8th Kokudan JASDF. Mitsubishi F-1 00-8244 of the 3rd Hikotai, 8th Kokudan JASDF. The aircraft is finished in a three-tone camouflage scheme of Dark Green FS34079, Medium Green FS34108 and Stone FS30372 over white undersides, with a black radome and anti-glare panel



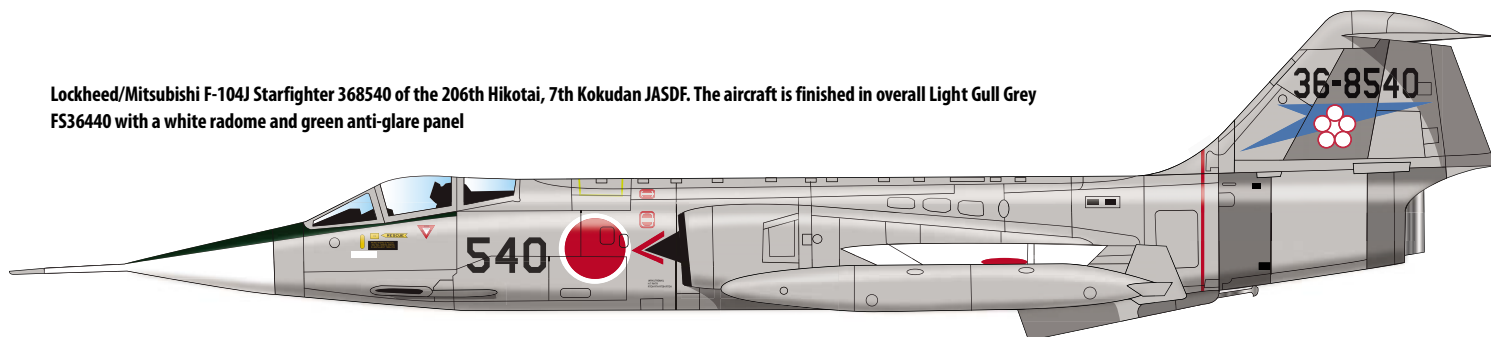
Mitsubishi T-2 59-5114 of the 4th Kokudan JASDF. The aircraft is finished in overall Light Gull Grey FS36440 with red tail and nose band and orange Day-Glo panels on the tail and wing tips, with a black radome and anti-glare panel



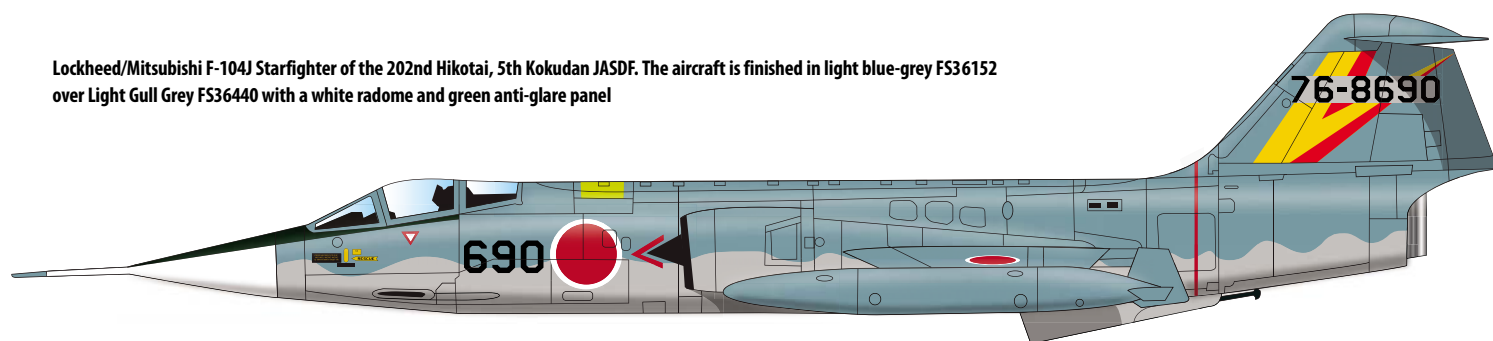
Mitsubishi T-2 69-129 of the 4th Kokudan JASDF. The aircraft is finished in overall Light Gull Grey FS36440 with a black radome and anti-glare panel



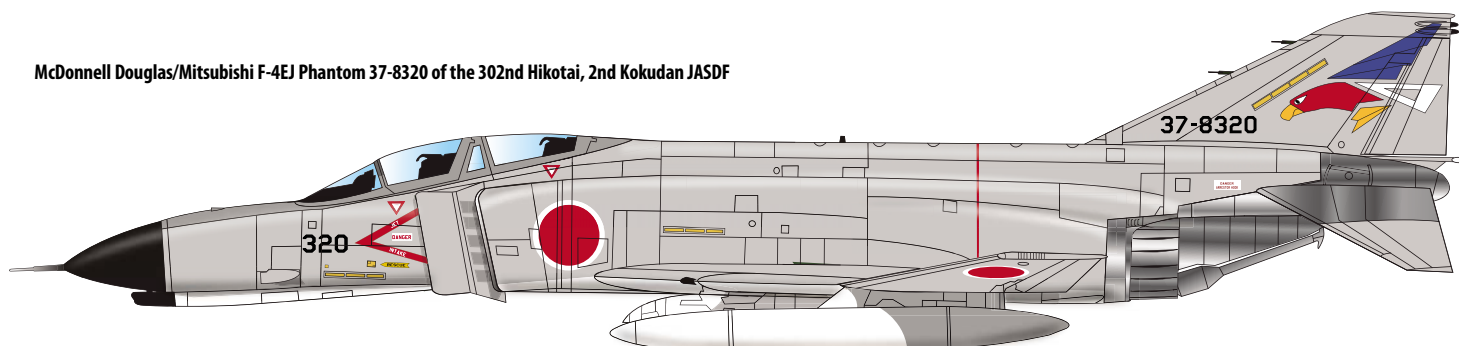
Lockheed/Mitsubishi F-104J Starfighter 368540 of the 206th Hikotai, 7th Kokudan JASDF. The aircraft is finished in overall Light Gull Grey FS36440 with a white radome and green anti-glare panel



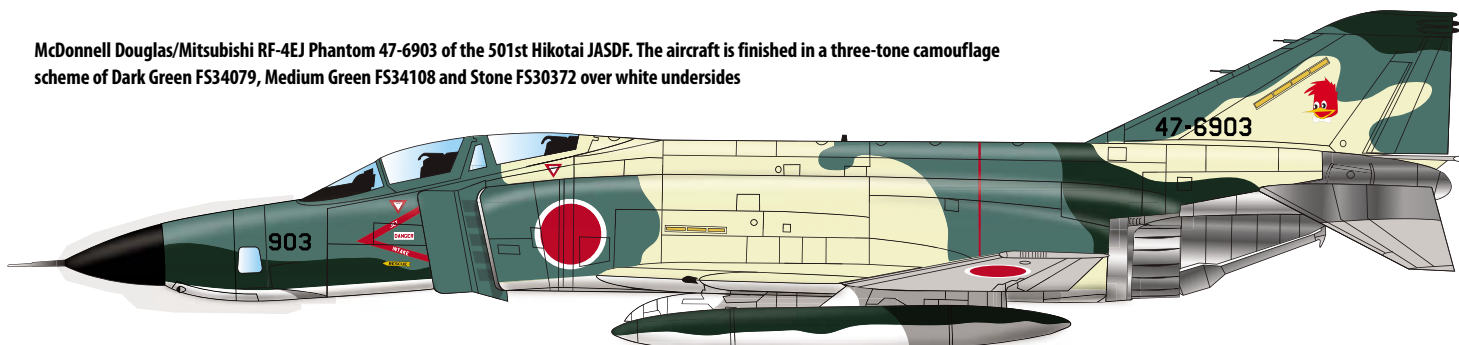
Lockheed/Mitsubishi F-104J Starfighter of the 202nd Hikotai, 5th Kokudan JASDF. The aircraft is finished in light blue-grey FS36152 over Light Gull Grey FS36440 with a white radome and green anti-glare panel



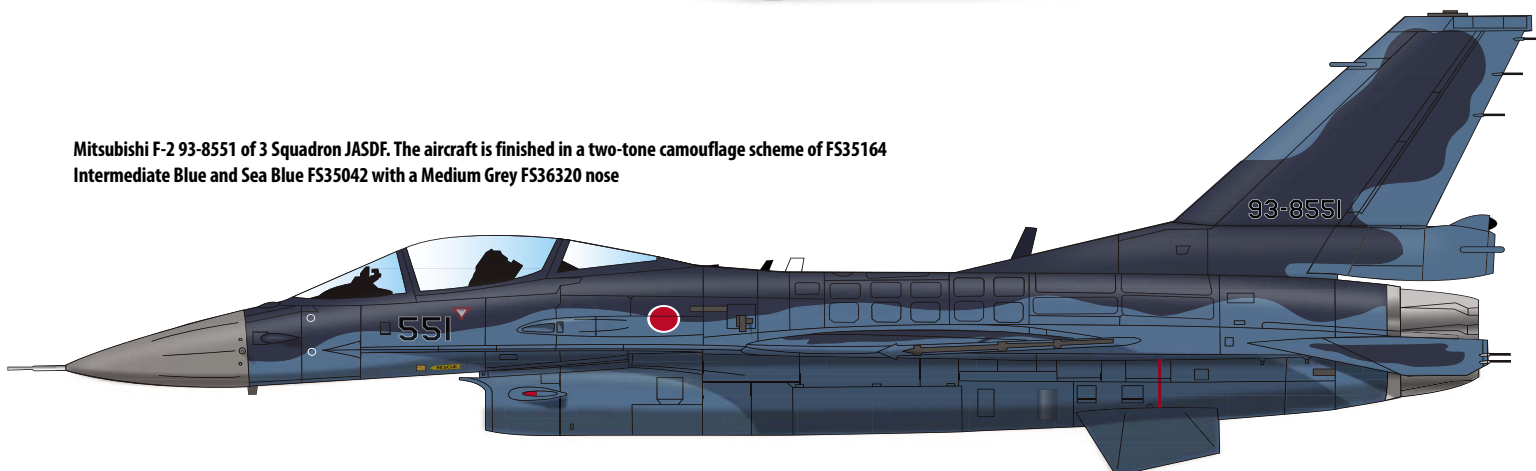
McDonnell Douglas/Mitsubishi F-4EJ Phantom 37-8320 of the 302nd Hikotai, 2nd Kokudan JASDF



McDonnell Douglas/Mitsubishi RF-4EJ Phantom 47-6903 of the 501st Hikotai JASDF. The aircraft is finished in a three-tone camouflage scheme of Dark Green FS34079, Medium Green FS34108 and Stone FS30372 over white undersides



Mitsubishi F-2 93-8551 of 3 Squadron JASDF. The aircraft is finished in a two-tone camouflage scheme of FS35164 Intermediate Blue and Sea Blue FS35042 with a Medium Grey FS36320 nose



McDonnell Douglas/Mitsubishi F-15J Eagle 32-8817 of the 7th Kokudan JASDF. The aircraft is finished in Dark Compass Grey FS36320 and Light Compass Grey FS36375





An F-15 complete with wing-carried 'drone' comes in to land



The SEPECAT Jaguar-esque Mitsubishi F-1

Mitsubishi F-1

The Mitsubishi F-1 was Japan's first post-World War II domestically developed and built jet fighter, produced by Mitsubishi Heavy Industries and Fuji Heavy Industries. It bears more than a passing resemblance to the SEPECAT Jaguar, but was a completely independent Japanese effort, although it uses the same engines! In the mid 1960s, the JASDF were looking for an advanced trainer that could also be modified to serve in the ground attack and anti-shipping roles. After considering licence production of the T-38 Talon and Jaguar, Japan decided to develop its own trainer, the Mitsubishi T-2, this first flying on 20 July 1971. Cost over-runs in the T-2 program lead to the proposed single-seat attack version almost being abandoned, but the cancellation of the Kawasaki P-XL, the planned replacement for Japan's P-2J maritime patrol aircraft, freed up funds, and contracts were awarded for the development of the attack version as the T-2 Kai in 1973.



The JASDF acquired 203 F-15Js and twenty F-15JIs



A pair of F-4EJs taxi in



The unmistakable shape of the F-4EJ in overall grey

The new aircraft was a minimum change derivative of the T-2, with the rear cockpit being faired over and filled with improved avionics and two additional hardpoints were fitted under the wing to allow carriage of a heavier weapon load, along with a new J/AWG-12 radar similar to that of the British F-4 Phantom. The F-1 was fitted with an internally mounted 20 mm M61A Vulcan cannon with 750 rounds of ammunition, as well as seven external hardpoints to carry a wide variety of stores. The fuselage hardpoint and inboard pair of underwing hardpoints are 'wet', which means they can be used to carry external fuel tanks to increase the aircraft's



The F-1 was fitted with an internally mounted 20 mm M61A Vulcan cannon with 750 rounds of ammunition, as well as seven external hardpoints to carry a wide variety of stores



The T-2 as used by the 'Blue Impulse' aerobatic display team



Almost a blur as this T-2 powers down the runway

Testors® Paints — JASDF

Aircraft Usage & Notes	Federal Standard 595a/b	ModelMaster Enamels	ModelMaster Acryl
F-1 Dark Green	FS34079	1710 Dark Green	4726 Dark Green
F-1 Dark Green (variation)	FS34097	1712 Field Green	4726 Dark Green (~)
F-1 Medium Green	FS34108	1764 Dark Green + white	4729 Dark Green + white
F-1 Radome Black	FS37038	1749 Flat Black	4768 Flat Black
F-1 Stone	FS30372	1742 Dark Tan + white (4:1)	4709 Dark Tan + white (4:1)
F-1 Underside White	FS37875	1768 White	4769 White
F-104J Anti-Glare Green	FS34092	1764 Euro I Dark Green	4729 Euro I Dark Green
F-104J Blue-Gray	FS36152	2085 Grauviolett RLM 75	4785 Grauviolett RLM 75
F-104J Gray	FS36440	1730 Gull Gray	4763 Gull Gray
F-104J Radome White	FS17875	1745 Insignia White	4696 Gloss White
F-15J Dark Gray	FS36320	1741 Dark Ghost Gray	4761 Dark Ghost Gray
F-15J Light Gray	FS36375	1728 Light Ghost Gray	4762 Light Ghost Gray
F-2 Intermediate Blue	FS35164	1720 Intermediate Blue	4744 Intermediate Blue
F-2 Radome Gray	FS36320	1741 Dark Ghost Gray	4761 Dark Ghost Gray
F-2 Sea Blue	FS35042	1718 Flat Sea Blue	4226 Sea Blue
F-4EJ Gray	FS16473	1731 ADC Gray	4693 ADC Gray
RF-4EJ Dark Green	FS34079	1710 Dark Green	4726 Dark Green
RF-4EJ Dark Green (variation)	FS34097	1712 Field Green	4726 Dark Green (~)
RF-4EJ Medium Green	FS34108	1764 Dark Green + white	4729 Dark Green + white
RF-4EJ Stone	FS30372	1742 Dark Tan + white (4:1)	4709 Dark Tan + white (4:1)
RF-4EJ Underside White	FS37875	1768 White	4769 White
T-2 Day-Glo Orange-Red	FS28913	2041 Fluorescent Red-Orange	4682 International Orange (~)
T-2 Day-Glo Red (variation)	FS28915	1775 Fluorescent Red	4703 Fluorescent Red
T-2 Gray	FS36440	1730 Gull Gray	4763 Gull Gray

NOTES: (~) = approximate

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The T-4 as used now by 'Blue Impulse'

range. The primary weapon of the F-1 was the ASM-1 and newer ASM-2 long-range anti-ship missile. Other weapons carried included the AIM-9 Sidewinder for air-to-air combat. This weapon was usually carried on the wingtip rails, but it could also be carried on the outboard underwing hardpoints for the F-1's secondary air defence role. Other air-to-ground weapons carried include 70 mm rocket pods as well as 227kg and 340kg Mk 82 and M117

respectively bombs. In addition, the Mk 82 and M117 bombs could be fitted with infra-red guidance kits, turning them into precision-guided weapons.

Mitsubishi T-2

The Mitsubishi T-2 was an indigenous fast-jet trainer developed by the JASDF. Two decades after World War II the JASDT began to consider the development of a supersonic jet tentatively named 'T-X'. Japan had found that the subsonic Fuji T-1 jet train-



The front end of the Kawasaki T-4



The sole EW EC-1 Trainer

rolled out on 28 April 1971, making its maiden flight on 20 July 1971. A total of ninety production T-2s were built, including twenty-eight unarmed T-2(Z)s, and sixty-two armed T-2(K)s. An additional two T-2(Z)s were built but modified for the S-FX/F-1 strike fighter program, and the last T-2 rolled off the assembly line in 1988. Despite its similarity, the T-2 was not a copy of the Jaguar, and the two aircraft could be distinguished at a glance, the T-2 having a more dart-like appearance, and being noticeably longer and having a distinctly shorter wingspan than the Jaguar. The tail assembly was conventional, featuring slab all-moving tailplanes with an anhedral of



Kawasaki C-1

er did not adequately prepare trainee pilots for more complex and difficult-handling front line Mach 2 fighters such as the F-104EJ, and Phantom and so, in 1964-65, began studies for a new trainer, which it was hoped would also form the basis for a future single-seat attack aircraft.

As noted, consideration was also given to acquiring existing foreign aircraft such as the T-38 and Jaguar, but in the end Japan decided to manufacture its own design, and as such in 1967, the Japanese Fuji, Kawasaki and Mitsubishi firms each submitted proposals, and in September 1967 Mitsubishi's design was selected. By March 1969 the design had been finalised, and the XT-2 prototype



A grey-dad T-4

POLLY Scale Acrylics

F505388 US TAC Dk Green
F505238 French Khaki (~)
F404088 Signal Green
F505214 Night Black
F505392 US TAC Tan + white (4:1)
F505011 White
F505246 K3/178 Foliage Green
F505060 RLM 75 Gray Violet
F505380 US Gull Gray Lt
F505011 White
F505374 US Ghost Gray Dark
F505376 US Ghost Gray Light
F505094 Intermediate Blue
F505374 US Ghost Gray Dark
F505092 US Sea Blue A/N607
F414134 Undercoat Light Gray (~)
F505388 US TAC Dk Green
F505238 French Khaki (~)
F404088 Signal Green
F505392 US TAC Tan + white (4:1)
F505011 White
F414356 GTW Morency Orange (~)
F505380 US Gull Gray Lt

A Mitsubishi F-2 in anniversary garb



A brace of F-2s make a quick getaway

15°. The steep anhedral kept the tailplanes out of the engine exhaust while allowing them to remain effective through the wing wash. Like the Jaguar, there was a fixed ventral fin under each exhaust, with two further hydraulically-operated airbrakes fitted just forward of each ventral fin. The licence-built Adour engines provided 22.75 kN (5,115 lbf) max dry thrust each, and 32.49 kN (7,305 lbf) afterburning thrust without the 'part throttle reheat' feature added to Adour 102s, and the T-2 was never refitted with more powerful Adour engine variants.

The XT-2 was redesignated T-2 on 29 August 1973, entering service in 1975, with the 21st Hikotai becoming fully operational on 1 October 1976, with a second squadron, the 22nd Hikotai following on 5 April 1978, allowing the F-86 Sabre to be phased out of the advanced training role. The 'Blue Impulse' display re-equipped with the T-2 in the winter of 1981–82, and some T-2s were used as a dedicated Aggressor Squadron before being replaced by the

F-15. The T-2 was retired by 2006, being replaced as an advanced trainer by the Kawasaki T-4.

Kawasaki T-4

The Kawasaki T-4 is a subsonic intermediate jet trainer that first flew in 1985, with over 200 examples being expected to enter service.

Kawasaki C-1

The Kawasaki C-1 is another domestically produced twin-engined short-range military transport designed to replace the WWII vintage Curtiss C-46 Commando, with production beginning in 1971, and now operating alongside its bigger counterpart the C-130 Hercules. A further development was the bulbous nosed EC-1 electronic warfare training aircraft.

Fuji T-7

The Fuji T-7 is the JASDF's primary trainer primary and a development the earlier T-3, itself descended

via the KM-2 from the Beech T-34, and shares the same single-engined low-winged monoplane layout but with an Allison 250 turboprop powerplant.

F-104J

The F-104J was a specialised interceptor version of the F-104G Starfighter for the JASDF, built under licence by Mitsubishi as an air-superiority fighter and armed with a cannon and four Sidewinder missiles, but with no strike capability. A total of 210 were built, three by Lockheed, twenty-nine by Mitsubishi from Lockheed built components and 178 built directly by Mitsubishi. Some were converted to UF-104J radio-controlled target drones and destroyed.

Flying Boats

The Shin Meiwa PS-1 and US-1A are large flying boats designed for anti-submarine warfare and air/sea rescue work. Between 1971 and 1978, the JMSDF ordered twenty-one of these aircraft, and



The F-104J was a specialised interceptor version of the F-104G Starfighter



A JASDF F-104J at Kwangju AB in 1982



A colourful JASDF 'Aggressor'



A JASDF E-2C Hawkeye



A Boeing E-767, which is essentially the E-3 Sentry's surveillance radar and air control system installed on a Boeing 767-200

operated them until 1989 when they were phased out and replaced with P-3 Orions. The PS-1 ASW variant carried homing torpedoes, depth charges and 127mm rockets as offensive armament but had no defensive weapons. It was also equipped with a dipping sonar, and twenty sonobuoys. It had a crew of ten: pilot, co-pilot, flight engineer, navigator and six sensor/weapons operators. The PS-1 had not been in service long before the JMSDF requested the development of a search-and-rescue variant, and the deletion of the PS-1's military equipment allowed for greater fuel capacity, workable landing gear, and rescue equipment. The new variant, the US-1A, could also quickly be converted for troop-carrying duties. First flown on October 15, 1974, it was accepted into service

the following year, and eventually nineteen aircraft were purchased. From the seventh aircraft on, an uprated version of the original engine was used, but all aircraft were eventually modified to this US-1A standard. With the US-1 fleet beginning to show its age, the JMSDF began to plan for an upgraded version of the US-1A, the US-1A Kai. This aircraft features numerous aerodynamic refinements, a pressurised hull, and more powerful engines. Flight tests began on December 18, 2003 and the JMSDF purchased some fourteen of these aircraft, and they entered service as the US-2. These aircraft are currently operated by the 31st Fleet Air Wing (71st Air Force, 71st Flight Squadron) at Iwakuni and Atsugi Air Bases.

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Another colourful 'Aggressor' scheme



A JMSDF Search and Rescue US-1



With the US-1 fleet beginning to show its age, the JMSDF began to plan for an upgraded version of the US-1A, the US-1A Kai



A Mitsubishi built CH-47 at Yokota



An SH-60J coming in to land

Early Warning

The JASDF operates two AWACS aircraft in the shape of the E-2C Hawkeye and the newer Boeing E-767 which is essentially the E-3 Sentry's surveillance radar and air control system installed on a Boeing 767-200.

Rotary Support

Helicopter-wise Kawasaki licence-built the CH-47 Chinook as Japan's heavy lift and transport helicopter, whilst Mitsubishi licence-produce the SH-60 as the primary search-and-rescue helicopter. **MA**



SAM PUBLICATIONS

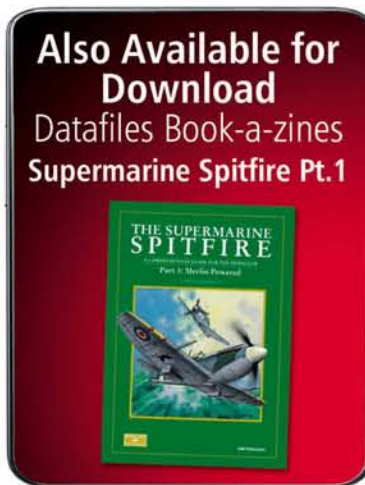
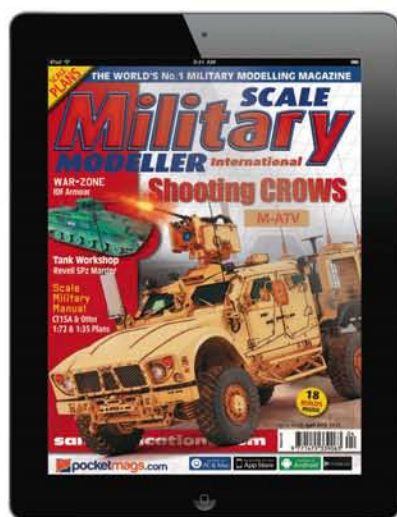
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Sea Cat

Airfix's Lynx in 1/48

By Andy McCabe

The Westland Lynx is a multi-purpose military helicopter designed and built by Augusta Westland in the UK. The Lynx design began in the 1960s and was intended to replace the Westland Scout and Wasp. The first prototype flew on the 21st March 1971 and the type entered operational service in 1977. The Lynx is currently operated by more than a dozen armed forces worldwide in various configurations.

The aircraft is powered by 2 x Rolls-Royce Gem turboshaft engines, has a maximum speed of 201mph and can carry a wide variety of weapons with a crew of two and up to eight troops. The Lynx will eventually be replaced by the Westland Wildcat, which is currently being introduced into the UK Army and Navy fleets.

The Airfix kit comprises seven sprues of injection moulded plastic, one large decal sheet and one instruction booklet. The parts are superbly moulded with crisp panel lines and detailing and after seeing a built-up one at Telford last year I knew how impressive this kit could be. The wealth of detail on the parts, especially the fuselage, is quite staggering, the best I have seen from Airfix to date.

The instructions are also very good with colour call-outs at each stage as Humbrol paint references,

while the decal sheet looks nice with plenty of detail and good colour registration.

I was also supplied with the Eduard HMA.8 Etched interior set and Mask set, the Rotor Craft Black Cat Lynx Decal set and also their stub wing and main undercarriage set for this build. There are three roles the Lynx can be depicted in with this kit - Counter Piracy, Air Sea Rescue and Anti-Surface Warfare.

The number of parts supplied is astounding and they only just fit into the box.

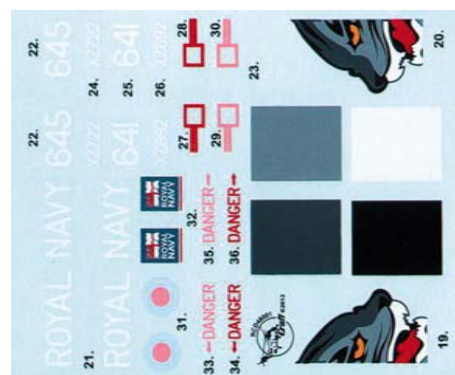
Construction

The build begins by assembling the cockpit, the parts used depending on the version you choose to model. I was building the HMA.8 version.

The pilot's and co-pilot's seats are the first parts to be made up, and these have moulded-in seat belts which are not included in the Eduard set. The seats build up into nice assemblies.

The next stage is to assemble the cockpit, again the parts fit depends on your version so be careful to ensure you use the right parts throughout this section of the build. The seats then fit onto the cockpit/cabin floor.

The first etched parts to be used are fitted to the instrument panel, and these are pre-painted and real-





Westland Lynx Mk 88A/HMA.8/Mk 90B

Scale: 1/48

Kit No: 10107

Manufacturer: Airfix

Rotor Craft: RDC48001 Black Cat Lynx

Rotor Craft RC48-04 Westland Lynx stub wing and main undercarriage

Eduard: #49613 Lynx HMA.8 Etched Interior

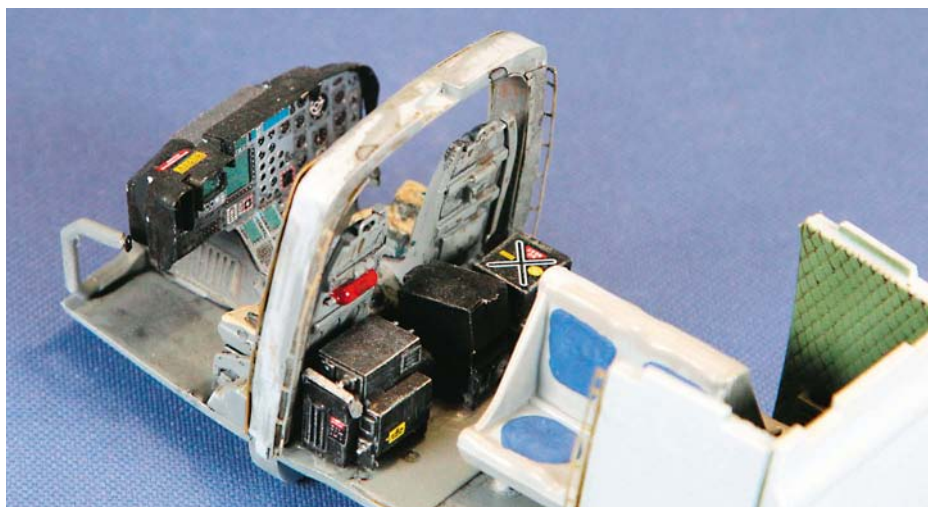
Eduard: #EX366 Lynx HMA.8 Mask

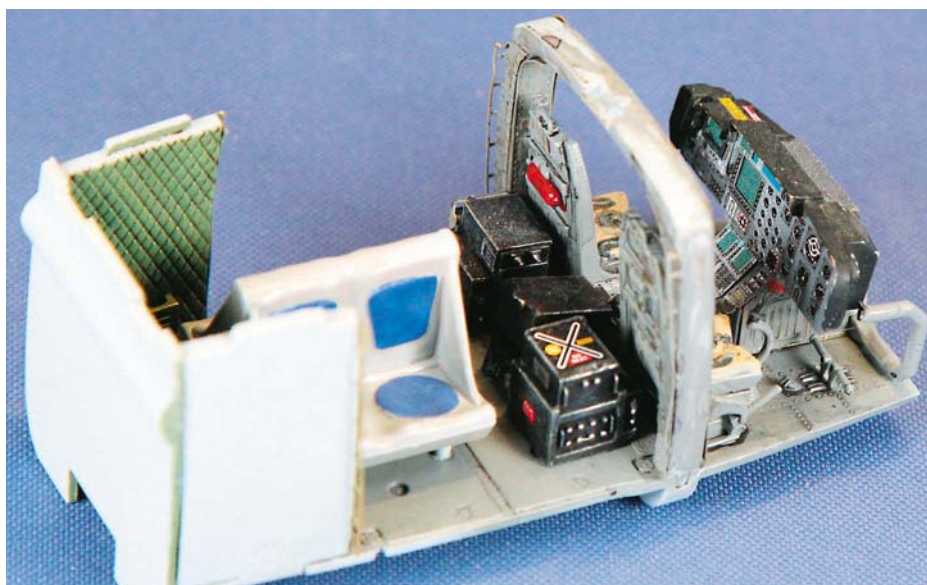
ly bring the panel to life. As the build of the cockpit and cabin progresses there are numerous etched upgrade parts to fit, although no seat belts are supplied as these come in a separate set. The etched parts definitely improve the plastic parts, but the level of the detail on the kit parts is good in any case.

The interior is quite complex, consisting of many

parts, and to describe each stage and part here would almost warrant writing a mini novel! Suffice to say that when built the cockpit and cabin are very detailed.

Before fitting the cockpit assembly into the fuselage various holes require opening depending on the variant you are modelling.





The cockpit/interior assembly slots very nicely into the fuselage halves but not before the two lower cockpit windows are installed. The fuselage halves fit together well, and the next stage is the upper engine cowling. The exhausts are now assembled and inserted through their side panels and then these are fitted to the fuselage, again offering a tidy fit.

The engine intakes are a multi-part assembly, which is very cleverly moulded and when fully assembled is quite a work of art. This just drops into place without the need for filler. The rotor head cowling now goes into position and a Lynx begins to emerge.

At this stage the stub wings are supposed to be assembled but these were replaced by the one-piece Rotor Craft resin part, which fits nicely after a bit of adjustment to the plastic fuselage. A few holes are opened up on the fuselage base and then this is glued into place.

The HMA.8 nose is quite distinctive as it carries the FLIR on the top and radome below the nose cone. Yet again these parts are superbly moulded and fit together precisely and the fit to the fuselage is exact. The cabin doors now receive etched upgrade parts and are painted and set to one side.



The tail boom is next, and there are two types of tail supplied depending on the version. The HMA.8 does not have the rear section assembly made up at this stage, although I did as it seemed logical to do so.

Various sensors and bits were now fitted to the underside of the fuselage, and from here on the instructions show the assembly and fitting of various weapons, but as I was not fitting any these stages were skipped.

The cockpit windscreen and crew doors were masked using the Eduard set and then the etched overhead panel was fitted. The cockpit windscreen was then glued into place and the doors temporarily fitted using Maskol.





The engine intake FOD grilles are clear parts, which were masked and glued into place, and the cabin doors were temporarily fitted. The model was then sprayed with a grey primer and any gaps or blemishes filled and made good. When I was happy with the fuselage an all-over coat of Gunze H335 Medium Sea Grey was sprayed on. The top of the tail boom and tail were painted gloss black and the model was ready for decaling.

The Rotor Craft Black Cat Decals are superbly printed. These were now applied and generally settled well although they did need a setting solution in some areas to get them to conform to the fuselage curves. They fitted the various lumps, bumps and protrusions of the model extremely well and really

look the business when they are all fitted.

A few of the kit decals were also used and these presented no problems during application.

There are three colour schemes supplied with the kit:-

- Westland Lynx Mk 88A, Marinefliegergeschwader 3 'Graf Zeppelin', Lebanon 2006, Matt blue-grey/white
- Westland Lynx HMA.8, 815 NAS, HMS Somerset, Royal Navy, RNAS Yeovilton 2010. Medium Sea Grey
- Westland Lynx Mk 90B Danish Navy Air Squadron, anti-piracy operations HDMS Absalon (L16), 2009, Gloss Midnight Blue.

The rotor blades were now assembled ready for painting, the blades themselves having decals for the leading edges although I am not sure that the colour is correct. I painted the leading edges in Aluminium and then masked and sprayed the blades with Tamiya XF-27

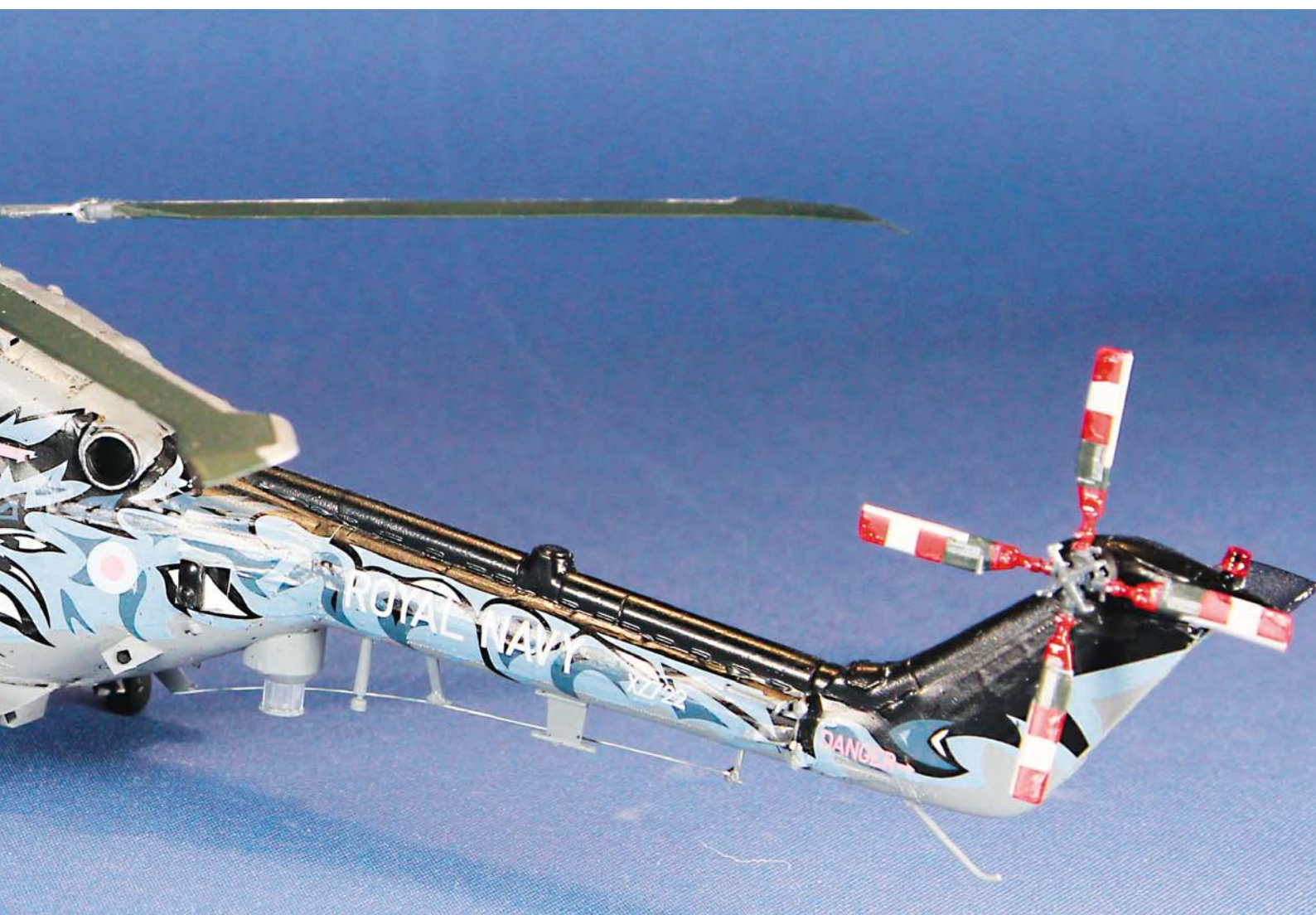
black/green. The main rotor blades and tail can be posed folded if required, and separate blades are supplied along with their retaining braces.

The tail rotor blades were painted and decaled and then fitted to the tail. The wheels were now painted and fitted to the fuselage and the model was finished.

Conclusion

I have now built the HMA.8 in three different scales, 1/72, 1/48 and recently the Revell 1/32, but as far as detail goes this is the best one. Airfix have spent a lot of time on this kit and it shows. The Eduard and Rotor Craft sets add to the detail and enhance an already impressive kit.

A thoroughly enjoyable build and intricate at times, especially when using the Eduard interior set. **MA**





Jinrai Butai (Divine Thunder Corps)

Modelling a 1/48 'Ohka'

By Mike Williams

The release by Fine Molds of a 1/48 Imperial Japanese Navy Yokosuka MXY7 Model 11 'Ohka' manned flying-bomb from the late Pacific War period, intended solely to achieve the IJN's Special Attack Force Shimpu (Kamikaze) missions, certainly aroused my interest. I have long considered including such a truly unique device within my IJN collection, and from a number of positive reviews I believed Fine Molds example would fit the bill. Supporting my decision to embark upon such a build were a number of authoritative publications, both historical and technical, which include revealing accounts and aspects of this matchless aircraft and its inimitable service, confirming its place in my collection.

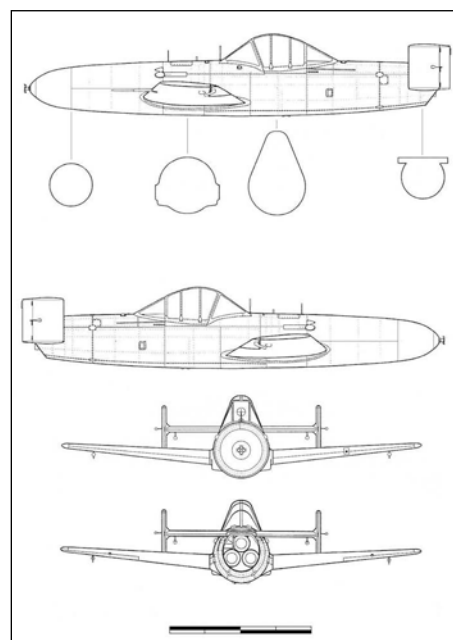
The entire operational history of the Ohka concept can be encapsulated into a brief fifteen-minute debacle over the East China Sea on the afternoon of the 21 March 1945. Here was enacted one of the most resounding aerial defeats of the Pacific War, when the IJN's crack 721st Kokutai (Navy Aviation Group), commanded by Captain Motoharu Okamura, after an intense six months of training, unleashed its 711th Hikotai (Attack Squadron) under Lieutenant-Commander Goro Nonaka. This strike was utterly routed, with all of its eighteen Mitsubishi G4M2E Type 1 Model 24J Tei 'Betty' bombers being



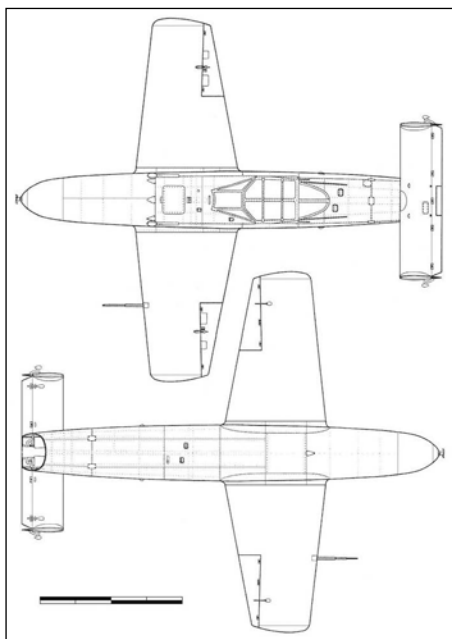
shot down, along with ten of the thirty escorting Mitsubishi A6M5 Type 0 Model 52 Reisen 'Zero' fighters in an attack upon an American Task Group, which had been located to the south of Kyushu.

Not fully appreciated at the time by the pilots of the USN Grumman F6F-3 Hellcat fighters who executed this massacre, or the upper echelons of Task Group 58.1 (TG-58.1 centred upon the carriers Hornet, Bennington, Wasp, and Belleau Wood) the designated target of the Japanese strike, was the fact that they had just escaped a potentially devastating attack by a revolutionary weapons system.

The massed Groups of Task Force 58 had just concluded a shattering visitation upon the Japanese air bases on Kyushu and southern Japan in preparation for the imminent American landings on Okinawa. Upon its withdrawal the remnants of the IJN



Profiles and sections, in which the prominence of the pilot's central position with its large Plexiglas canopy is well conveyed (Japanese Special Attack Aircraft & Flying Bombs by Mushroom Model Publications)



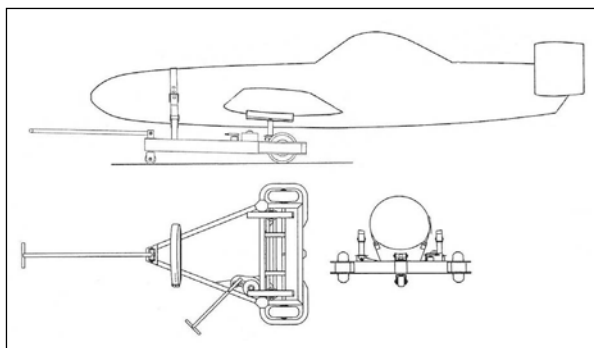
Plan views, upper and lower perspectives graphically indicating the very stumpy wing configuration of this flying bomb (Japanese Special Attack Aircraft & Flying Bombs by Mushroom Model Publications)

aerial forces had launched a series of desperate conventional attacks, which although severely damaging the USS Franklin from TG-58.2, did not inflict mortal damage, although the few surviving Japanese aircrew that returned declared it to be an overwhelmingly resounding victory.

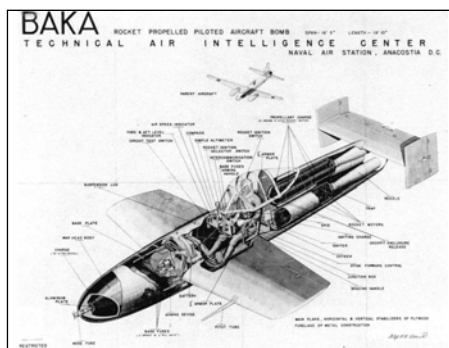
So when a Japanese scout located TG-58.1 some 350km south of Kyushu in the East China Sea apparently limping away to the south, Vice-Admiral Matome Ugaki, the commander of the 5th Air Fleet, was absolutely convinced that here at last was the long awaited opportunity to unleash their potent irresistible secret weapon, to destroy utterly this seemingly detached Group from Task Force 58, and inflict an overwhelming defeat upon the fleeing enemy. In this Ugaki committed the bulk of the operational Jinrai Butai to the attack.

The Japanese Kaigun Jinrai Butai (Navy Divine Thunder Unit) 721st Kokutai after six months preparation, had its 711th Hikotai as its main attack element poised since 20 January 1945 at the advanced Kagoshima airbase of Konoya on Kyushu, awaiting such a one-strike opportunity. Initially based at Konoike in Ibaragi Prefecture north-east of Tokyo during its training and work-up phase, the core elements of the operational 711th Hikotai were fully worked-up and ready.

Admiral Ugaki's decision was not, however,



Transport trolley. The one point of note here is the depiction of its securing strap over the forward fuselage support, a feature not included with the model (Japanese Special Attack Aircraft & Flying Bombs by Mushroom Model Publications)



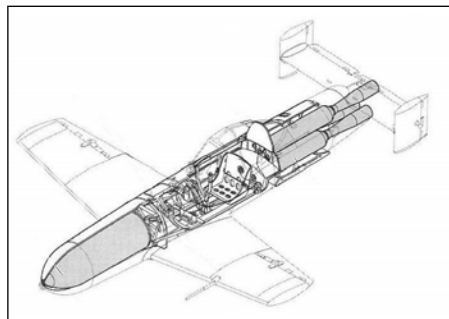
Western illustration - Technical Air Intelligence.

blindly accepted. Captain Okamura and Commander Nonaka were not convinced of the purported weakness of the Americans and their powerful Combat Air Patrol (CAP), but an insistent and forceful Ugaki prevailed, positive the time to strike was now, therefore Okamura and Nonaka had to acquiesce to the inevitable, as discipline, obedience to a superior's orders, and honour dictated.

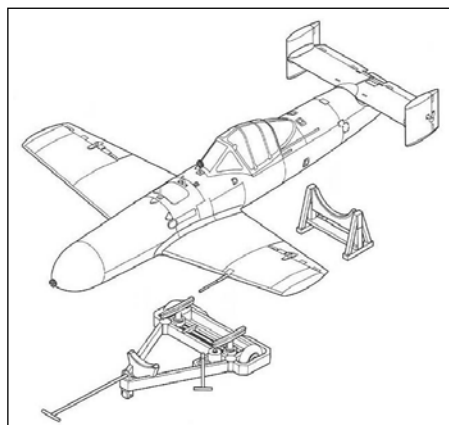
Knowing the assignment was fatally compromised, Commander Nonaka insisted upon leading the attack in one of the Bettys. Altogether the 160 pilots and aircrew involved, from the fifteen bombers with Ohkas and three bombers as navigation escorts, received an emotional send-off, accompanied by Jindaiko war-drums from the local Shinto shrine for the occasion, thundering out martial rhythms dating from antiquity. With samurai banners, and rousing speeches, the Ohka pilots headed by Lieutenant Kentaro Mitsuhashi (Mihashi) were immaculate in spotless uniforms with pristine white hachimaki headbands with their hinomaru emblems. Commander Nonaka's true feelings about this imposed impossible mission can be clearly perceived through his quoting the legendary samurai



Western illustration - Publication.



Basic internal structure, clearly indicating the warhead, cockpit, and motor assemblies which are all included in this kit



Ohka with its trolley and stand, offering a perfect display base

warrior Masashige Kusunoki, from the Battle of Minatogawa (1336), referring to the honourable but indisputably sacrificial nature of the duty he and his command were now ordered to execute.

The Fifth Air Fleet had promised fifty-five Zero fighters as close escort, a truly fundamental aspect



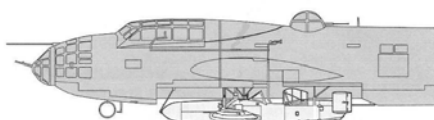


Illustration of the mounting of an Ohka and its Betty mother-ship finally deemed suitable)



The parts as provided by Fine Molds



Basic construction of the model goes pretty quickly...

of such an attack, made up of thirty-two of the Jinrai Butai's own fighters drawn from its attached 306th and 308th Hikotais, each possessing a paper strength of thirty-six Zeros, along with twenty-three from the 201st Kokutai on Kyushu. However, only thirty fighters were eventually able to accompany the bombers, an irrevocably fatal weakness in the strike, and these fighters were in various states of disrepair, flown by generally inexperienced pilots.

One wonders what the outcome of this first Ohka attack might have been if the renowned 343rd Kokutai, 301th Hikotai, based nearby at Matsuyama on Shikoku, possessing the superlative Kawanishi N1K1 Shinden and N1K2-J Shinden-Kai 'George' fighters manned by the cream of the surviving IJN pilots, under Minuro Genda (who was personally aware of the Ohka as early as 5 August 1944), had been fully committed to escorting this unique strike by Admiral Ugaki. Pure speculation and conjecture, but given the record of the 343rd Kokutai 'Genda's Blade' over the previous days against TF-58 in the defence of the Home Islands, its potential to escort through a significant number of Betty-Ohka combinations to within killing range of TG-58.1 cannot be discounted, but history records a different fate for Nonaka's 711st Hikotai.

After a three-hour flight to target, the 711th was located at extreme range by TG-58.1's radar, and a powerful Hellcat fighter CAP was immediately launched and vectored onto the approaching laden bombers, still some 113km from the carriers, well short of the Ohka's limited 37km range. In the ensuing debacle all eighteen bombers were lost, along with the fifteen Ohkas and their crews, plus ten fighters, while only one Hellcat was lost in exchange, emphasising the Jinrai Butai's total rout. Late in the afternoon around fifteen shot-up Zeros returned to Kanoya, a few others crash-landing at outlying fields. Their news of the disaster was absolutely crushing.

Following the early reversals in the programme, with plans to ship Ohkas to the Philippines for forward deployment, thwarted through the sinking of Shinano (with fifty crated units) on the 29 November, Unryu (with thirty Ohkas) on 19 December, and Ryuho (with fifty-eight Ohkas) forced to seek sanctuary at Taiwan (Takao), effectively resulting in 138

Ohkas being lost to the war effort, the decision to then concentrate all units, personnel, and resources in the Home Islands was taken in the belief that an overwhelmingly powerful force could be built up to unleash at a vital decisive moment, for maximum material and moral impact against the enemy. Everything was staked upon the Jinrai Butai massed at Kanoya, and with their utter defeat on their first sortie, the Japanese belief in their Ohkas was shaken to the core.

But commencing on the 1 April 1945, with the Allied invasion of Okinawa, the follow-on Betty-Ohka combinations of the Jinrai Butai embarked upon a protracted campaign against the massed US Fleet and transports off Okinawa, participating in eight other Kikusui sorties between 12 April and 22 June. Post-war analysis concluded that the Ohka's impact was negligible with no US Navy capital ships sunk during their attacks, the single greatest loss being the destroyer Mannert L. Abele on 12 April 1945 off Okinawa. The Ohkas were defeated due to the extremely effective in-depth layered defensive tactics that the Americans employed against them. The concept never lived up to its great expectations, having only sunk one destroyer and damaged 6 other American vessels, for the loss of 375 bomber crewmen and fifty-five Ohka pilots.

Nevertheless the Ohka was certainly a unique concept in both its intended role and construction, and its modelling potential is quite obvious, with

its diminutive structure certainly exceptional through its evocative 'manned torpedo with wings' configuration.

Ohka

Lieutenant Mitsuo Ohta (Masakazu Ota), was a transport pilot from the 405th Kokutai, and his initial concept aided by the Aeronautical Research Institute at the University of Tokyo was refined by the Aerial Weapons Research Laboratory in Yokosuka (Yokosuka Naval Air Technical Arsenal - Dai-ichi Kaigun Koku Gijitsusho - Kugisho) program under Captain Tadanao Mitsugi.

The single-seat Ohka was a purpose-built, low-wing monoplane with twin vertical tails, a dedicated rocket powered human-guided anti-shiping attack craft, essentially a glider-bomb with rocket-propulsion for its terminal dive. The basic fuselage was of all metal (duralumin) constructions in three sections, with wooden wings, tail, and control surfaces. It was of simple construction for mass production by semi- and unskilled labour, conserving as much vital war materials and scarce resources as possible. However, the craft had to have good handling characteristics because of the limited abilities of the bulk of the envisaged teenage pilots, flying their one-way mission with minimal training and instrumentation.

In cold specification terms the Model 11 had a length of 6.06m, wingspan of 5.12m, and height of 1.16m, all in all a very compact single-purpose-



All but complete with no fit issues and very little effort involved

built aircraft, weighing in at a loaded weight of 2,140 kg. It was fundamentally a glider for most of its 'flight', but a cluster of three Type 4 Mark 1 Model 20 solid propellant rocket motors, producing a total thrust of 800 kg, could propel (at full-boost) an Ohka to a telling terminal 1,040 km/h (650 mph) dive during its nine-second burn. Dropped from around 7,000, it could achieve a maximum range of just 37km (23 miles)

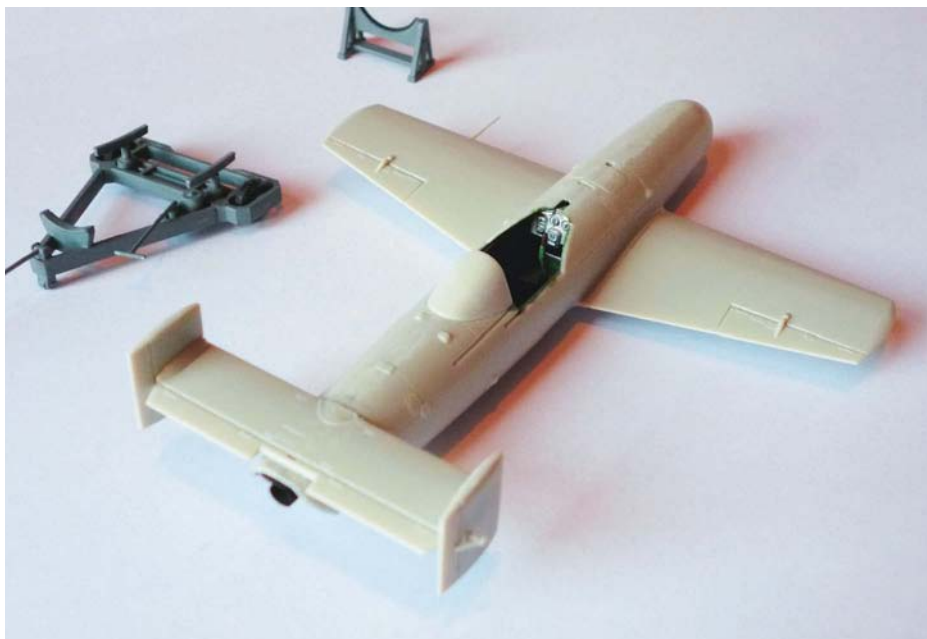
It was a truly unique aerial craft intended for one specific role - to deliver the awesome ship-killing 515kg of Type 91 trinitroanisole high explosive contained within its 'Tekkou' armour-piercing 1,200kg warhead, with its multiple detonation fuses (1.5 sec AP delay possible), into an enemy ship, preferably a vital aircraft-carrier, now seen as the new capital ship of any fleet.

The principal piece involved in this article has many names, the most widely used and accepted today being 'Ohka' (Cherry Blossom), with different anglicised spellings as Oka and Ouka, along with the derisive Allied term 'Baka' (stupid, fool) or official designation of 'Viper' to confuse the issue. Even its official nomenclature as the Yokosuka MXY7 Model 11 sometimes has the 'manufacturer' changed to Kugisho, and while this plant was certainly the initial developer and built 155 operational examples plus forty five K-1 trainers, the later mass-produced 600 operational units were completed at Kasumigaura, before production of the Model 11 ceased in March 1945.

However to the Academy graduates and Yokaren program pilots destined to man these flying-bombs as their ultimate guidance control, they were universally called 'Marudais' during the war, after Project Marudai, with the Maru prefix often used for projects, and Dai as an alternative reading of the characters of Ota's name, but in this feature I have bowed to convention and employed 'Ohka' throughout.

Model

I had previously worked upon Fine Molds' 1/72 Type 1 Kaiten human-torpedo (FS1) and Type A Kōhyōteki midget-submarine (FS3), so I had certain high expectations regarding what to presume from their 1/48 Ohka Type 11 (FB-15). However I was to be pleasantly surprised to discover that these were



A glimpse of the interior detail provided in the kit. Fine Molds also offer an etched set that can be purchased separately

to be significantly exceeded.

Released in September 2011, and obtainable through a number of Internet sites today for around £22, this is the operational version of the rocket-bomb, which includes a trolley and support rack. An unpowered Trainer K1 version (FB16) released at the same time and price is also available, possessing a landing skid and tail wheel, differing from the operational version in the shape of the forward and tail fairing sections of the fuselage, and overall 'trainer' orange colour scheme.

It should be mentioned here that Fine Molds have also released a separate photo-etched fret (AC-91), which includes pilot's seat and belts, armour-plate, 'gunsight' type aiming ring, pitot tube, two wrenches and a few other minor details. I did not pursue and obtain this etched set simply because I was to discover the basic presentation is already superbly detailed.

The initial impression of my package was typical

Fine Molds, presenting a relatively diminutive kit in an over-sized spacious top-opening box with the single bagged sprues and instructions occupying a fraction of the interior. But even without any internal packing to secure the contents, everything arrived safe and sound.

The usual initial sprue check quickly established two points. Paramount here was how small this aircraft actually was, quickly followed by being very, very impressed by the astounding degree of restrained but well defined sharp detailing present throughout every aspect of this model, significant improvements upon my two earlier subjects from this firm.

My subsequent checking of the overall dimensions confirmed the accuracy and lines of this well executed model, and while precise and pleasing it certainly is, it is not complex, with a total of just fifty parts for the Ohka itself, ten parts for the trolley and a three-part stand. Throughout I was to find the alignment and fit of all components truly first-class, all of which resulted in a technically very easy build 'straight from-the box', with absolutely no vices or nasty surprises. My only noticeable digression from Fine Molds' instructions involved the colour of the trolley and stand, which I finished-off in XF-75 Kure



Grey instead of their suggested Cockpit Green.

While the provision of a nicely detailed tricycle transportation trolley and aft stand is very welcome, the omission of a pilot is to be regretted, since the provision of such a basic figure would certainly add the vital 'human' element to such an evocative display piece.

Fine Molds have also depicted the entire triple solid rocket pack aft, and warhead forward, enabling modellers to consider a truly diverse number of display options. The two main fuselage halves are solid one-piece parts so anyone desiring to show off these internal features will have to be extremely innovative. For myself, the simple, indeed obvious, expedient of displaying the detached warhead outside the Ohka by itself, is an easy realisation of this kit's show potential.

As for the overall final display piece itself, the model has a uniform spray of Tamiya IJN Light Grey AS-2, with very restrained weathering and wear, since these craft were by all accounts immaculate, faultlessly readied for their one mission, well maintained and respected for the role they were to perform by their dedicated ground crews despite the privations and shortages then being experienced in Japan.

The comprehensive decal sheet provided is one of the kit's highlights, with sundry markings, handling labels and emblems for no fewer than five individual craft, with perhaps those for the early production I-18 being the most famous example - one of five captured at Kadena on Okinawa by the Americans, which was well photographed during its display and dissection there. For myself I chose the late production example (No.20) from the 721st Air

Group, 3rd Kamikaze Ohka Special Attack, present at Kanoya on the 12 April 1945. Unusual to note for a manned IJN aircraft, there are no hinomaru roundels, only the K1 trainer had these, not the operational Model 11s.

Betty

The Ohka was carried underneath a 'Betty' medium bomber to within range of its target. The 'bomb' could achieve great speed, but with limited range, which was problematic, as it required the slow, heavily laden mother aircraft to approach fatally close to the heavily protected target, making the combination extremely vulnerable to nimble defending fighters, added to which the Ohka's loaded weight of 2,140kg far exceeded the Betty's standard 1,000kg load, further decreasing its handling and performance capabilities.

Since the 'Betty' bomber was a crucial component of this entire concept, it has to be highlighted. Here the G4M2e Model 24J Tei variant was a modified G4M2a Model 24B or C Hei, with bomb bay doors removed, a single strengthened shackle point, and surface-search radar fitted in the nose. To its crews it was popularly referred to as just 'Isshiki', from Isshiki Rikko, itself short for Isshiki Rikujo Kogekiki (Type 1 land-based attack plane).

As a direct scale companion for Fine Molds' kit the obvious mate is Tamiya's 1/48 Mitsubishi G4M1 Betty Type 11 (No.49), released in October 1996, now costing around £40, but being an early variant with no integral provision for modification into an Ohka carrier, or suitable alternative decals, such a grandiose kit would require some work to modify it into a 721st Kokutai unit from early 1945.

For anyone interested in obtaining a complete and accurate Betty-Ohka combination to a uniform scale from this late-war period, then obviously Hasegawa's dual 1/72 G4M2e Betty with Ohka 11 arrangement (# E20), from April 2004 at around £23, fully meets these harmonized scale requirements in one package.

Close

If the Ohka Type 11 in operation could be said to have had a single fatal flaw, this had to be its short range, bringing the slow and lumbering combination within reach of deadly massed Allied fighters. This particular aspect was to have been addressed in the follow-up Type 22, of which fifty non-operational units were built before the end of the war. To make this concept more practical, a Tsu-11 Thermo-jet engine could render a theoretical 160km (99 mile) range, but realistically 65km (40 mile) would have been practical in combat. The Type 22 would have been lighter at 1,450kg with a 600kg warhead and wingspan reduced to 4.1m, but length increased to 6.88m, to enable it to be carried by a modified Kugisho P1Y1 Model 13 Ginga 'Frances', in a more dexterous configuration.

This, credibly, was the last Ohka craft. The hypothetical designs that followed never progressed beyond the drawing board, such as the evolved rocket Model 21, turbo-jet Model 33, submarine-launched Model 43A Ko, cave-launched Model 43B Otsu, and tow-launched Model 53 variants. These existed only on paper with no examples actually built. Certainly the original Model 11 was the only operational craft apart from its actively employed single-seat K-1 and two-seat Model 43 K-1 Kai training variants.

Given this craft's unique position in aviation history, Fine Molds have obviously not been the first to model an example. The moulds of a non-operational Type 22 Ohka veteran in 1/48 have been marketed under the Hawk, Tsukuda, Testors, and Italeri labels over the years, along with Lindberg's similar injection plastic rendition. In resin Kora produced a limited-run version, and Models & More also market an example of the non-operational Type 22 variant.

As for 1/72, well besides the operational Type 11 example included within the Hasegawa 'Betty' combination model, I believe other examples in this scale were once marketed by Grach (resin) and Airframes (vacform), while at the other end of the size range Lone Star Models currently have a 1/32 Ohka.

Most of these kits are either long out of production and unobtainable, or limited-run kits priced accordingly, so the readily available Fine Molds operational Type 11 or its sister K1 trainer will be the ideal base for most modellers interested in this subject for some time to come. It is a first-class 1/48 rendition of this truly unique craft, and one which has now filled a gap in my IJN collection, after a rather enjoyable fuss-free build.

Thanks to Mushroom Model Publications for their assistance with material for this article **MA**

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- Blossoms in the Wind: M.G. Sheftall, Caliber, Penguin Books
- The Divine Wind: Inoguchi & Nakajima, Bantam War Book



Here the finished model is offered alongside a contemporary to give an idea of its diminutive size

Scale Aircraft Conversions

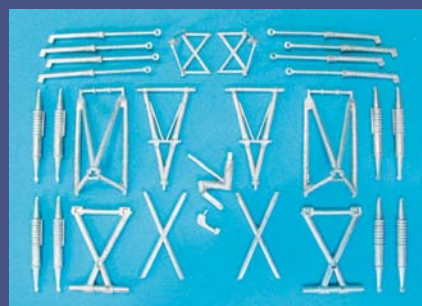
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(replacement for 1/48 Airfix)



48222 Fw 200 Condor Landing Gear (Trum)
(replacement for 1/48 Trumpeter)



48224 Bf 109 E3/4/7 Landing Gear (Tam)
(replacement for 1/48 Tamiya)



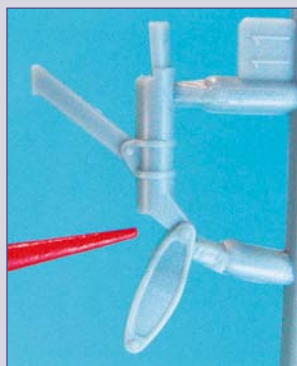
48225 Spitfire Mk. II/Vb Landing Gear (Tam)
(replacement for 1/48 Tamiya)



14411 Boeing 727 Landing Gear (AX)
(replacement for 1/144 Airfix)

Oops ... I didn't notice that on first inspection

Trumpeter's new 1/48 Vampire FB.Mk.9 is another welcome addition for those who enjoy building models of early jets. The manufacturer suggests adding 16 grams of ballast to the forward fuselage to prevent tail dragging. The new SAC set (# 48221) provides strength and the nose gear includes the oleo which is missing from the plastic kit part.



scaleaircraftconversions.com



A41-206 after arrival in Canberra on December 4, 2006



Cockpit interior of a C-17A

RAAF'S Heavy Lifters

Boeing C-17A Globemaster IIIs in RAAF Service

By Mike Mirkovic.

The Australian Defence Force (ADF) decided to acquire the C-17 after it found that it didn't have the capacity for carry outsized cargo and freight following its commitments in East Timor and ongoing support in Iraq and Afghanistan. The increasing costs of hiring civilian heavy cargo transports was getting to much for the defence budget and continuing reliance on USAF assets was also a factor in the RAAF ordering the Globemaster. In March 2006 the then Defence Minister Brendan Nelson announced that the Government would be ordering three C-17s with an option of a fourth and that deliveries would commence later that year. The fourth option was also converted to a firm order later the same year.



A41-208 taking off at Amberley, 19 May, 2009



A41-208 taxiing at Amberley, 12 February, 2008

The first aircraft, A41-206, came off the Long Beach production line in October 2006 and flew for the first time on November 7. It arrived in Canberra on December 4 after a trans-Pacific delivery flight, flown by Wing Commander Linda Corbould, 36 Squadron's Commanding Officer. It was then flown up to its base at RAAF Amberley, Queensland on December 7. The second aircraft A41-207 followed in May 2007 with A41-208 arriving in February 2008 and the fourth A41-209 arrived in August 2008.

Their first operational task was delivering two Puma helicopters to Thailand in May, 2008 for the UN during flood relief operations in Myanmar. Their first visit to Afghanistan was in July 2009, when one aircraft flew into Tarin Kowt to support the Australian Mentoring Task Force, which is based there. Aircraft were also upgraded by installing the Northrop Grumman Large Aircraft Infra Red Counter-measures



A41-206 taxiing on the red dirt strip at Mackaroo, Northern Territory, 29 June, 2007



A41-206 taking-off at Mackaroo



A41-209 loading an Army S-70A-9 Black Hawk A25-212 at Amberley, 12 August, 2009



C-17A Globemaster with Sea King Mk 50A at Amberley during the floods, 12 January, 2011



Head-on view of the open engine cowl of A41-206 at the Avalon Air Show in March, 2009



A41-208 being loaded with a Japanese Self Defence Force truck and trailer at Okinawa, 21 March, 2011



A41-208 unloading JSDF truck at Sendai Airport, Japan, March, 2011



C-17A Globemaster being loaded with supplies for Japan at Amberley in March, 2011



Three 36 Squadron Globemasters at Yokota AFB, A41-206, 207 and 208 with a USAF Globemaster in the distance, 22 March, 2011

(LAIRCM) missile defence equipment, which is standard on all Middle East deployments. Due to the heavy commitments and maintenance cycles, a fifth aircraft was ordered in February 2011 and was delivered on September 19 of that year as A41-210. A further machine was on order in March 2012 and was delivered in November 2012 as A41-211.

In 2011 the four aircraft then in service were utilised heavily during the Queensland floods in January, which were quickly followed by floods in Northern Victoria and then by cyclone Yasi in February. This was followed by relief operations after the earthquake in Christchurch, New Zealand on Febru-

ary 22. After the tsunami hit Japan on March 11, 36 Squadron sent a Globemaster to Yokota Air Force Base to help in the relief operations. Not long after that came a request for a water cannon to help after the Fukushima nuclear reactor meltdown, and two more aircraft arrived from Perth with the equipment. All this was happening along with the continuing commitments to Afghanistan resupply missions.

Since then their commitments to resupply missions, operations in Australia and continuing relief operations when needed - like the recent floods again in Queensland this January - have seen these gentle giants earning their purchase price.



A41-206 being loaded with Australian Army wreckers at Tarin Kowt, Afghanistan, August, 2011



A41-207 landing at Yokota after a flight from Perth with water cannon for Fukushima Nuclear Plant, with A41-408 and a USAF C-17A on the strip, 22 March, 2011



A41-209 at Darwin after unloading an Australian Army M1A1 Abrams tank on 11 May, 2012



A41-206 landing at Amberley on July 25, 2011



Rear view of A41-207 at Pearce Air Show

Serials

- A41-206, c/n. F-166, USAF serial 06-0206.
- A41-207, c/n. F-173, USAF serial 06-0207.
- A41-208, c/n. F-183, USAF serial 06-0208.
- A41-209, c/n. F-184, USAF serial 06-0209.
- A41-210, c/n. F-239, USAF serial 11-0210.
- A41-211, c/n. F-251, USAF serial 12-0211.

Colour Schemes

Overall grey with titles, serials and insignia in black and full colour Australian flag above the forward fuselage doors.



Starboard side nose showing serial numbers of A41-211



Front view of A41-207 at RAAF Pearce (W.A.) Air show, 20 May, 2012



Starboard side view of A41-207 at Pearce Air Show



View of the upper surfaces of A41-210 during its flypast at the Pearce Air Show



A41-210 taxiing after flying display during the Pearce Air Show



View of starboard side front of A41-207 at Pearce



Head-on view of starboard inner engine nacelle of A41-207



Open panel of the outer port side engine nacelle of A41-207



Head-on view of outer port engine nacelle



View of the starboard engine nacelles of A41-207



A41-211 taxiing in at Amberley after its trans-Pacific delivery flight on 6 November, 2012

Kits

1/144 - Revell, 1/72 Anigrand

Decal Sheets

In both scales by Flying High Decals and Southern Sky Models

Acknowledgements

ADF-Serials website, Aero Australia magazine and photos courtesy of Aviation Heritage Museum of WA

MA

Spitfire Mk.IX



- plastic sprues for 2 models, including 3 wings (IXc early, IXc late, IXe)
- 14 MARKINGS, including two beer barrels ships
- Cartograf printed decals
- Mark IX Eduard Beer glass
- Brassin accessories: external fuel tank (2 pcs), main wheels (5 spoke discs (2 pairs) and 4 spoke (1 pair), pattern tires (1 pair) and smooth tires (2 pairs)), famous „Mk. XXX“ beer barrels (2 pcs)
- painting mask and PE-sets
- PE landing flaps (2 sets)

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The Supermarine Spitfire in Foreign Service

Part 2. Continuing our in-depth scale survey

by Robert Humphreys
Photography By Aled Owen

Czechoslovakia

Czechoslovakian pilots and aircrew served with distinction as members of the RAF during the Second World War. Early in the war, three Czech Squadrons were formed within Fighter Command, namely Nos. 310, 312 and 313, all of which flew Spitfires of various types. Shortly before D Day these squadrons became No. 134 Czech Fighter Wing. The end of the war in Europe would see them equipped with either the Spitfire Mk IXC or Mk IXE.

In August 1945, these three squadrons departed the UK for their homeland in order to help form the new post-war Czechoslovakian Air Force. With the return of peace to Europe, Czechoslovakia found herself within the Soviet sphere of influence as the Iron Curtain, as dubbed by Churchill, divided the Conti-

nent into two differing ideological areas. The Cold War had begun. From now on, the aircraft were to be selected from Soviet designs which in turn meant that the Spitfires were to be withdrawn from service.

So it was that during 1948 and 1949, Czechoslovakia was able to sell fifty-nine of the remaining Spitfires to Israel. Initially the aircraft were flown to their new operators while later deliveries were made by sea. Many of Israel's newly received Spitfires went on to serve in Israel's War of Independence, with many being sold to Burma at a later date with whom it is also reputed that they saw action.

Meanwhile, back in Czechoslovakia, the only Spitfires remaining were not Air Force machines but the very small number of the type which were operated in their distinctive colours by the Security Air Guard. By 1951 these too had gone.

Representative Aircraft

Spitfire Mk IXE, SL654, DU-G of No. 312 Sqn after the unit had returned to Czechoslovakia in 1945. This aircraft is depicted on Tally Ho's sheet, no. 72-036, which covers Spitfire Mk IXs with the Czechoslovakian Air Force post-war, this sheet being Part 1.

Construction

When I undertook this build, I didn't have a Mk IXE to hand so I fell back on Hasegawa's Mk IXC. For the most part, construction follows the same lines as already detailed elsewhere, but in this case the standard span wing tips are used along with the pointed rudder and the larger style carburettor air intake.

The main work involved in this case is to convert the Type C wing to depict the Type E armament configuration. In 1/72 this can be represented by posi-



tioning the cannons in the outer position and placing the cannon stubs in the inner position. The stubs can then be carefully drilled out to simulate the muzzle of the 0.5" Browning machine gun. The cannon blister on the upper wing surface will also have to be repositioned so that it is in line with the relocated cannon. I was fortunate to have resin items available for this task and injection moulded conversion parts have also recently become available. Further work involves filling in and sanding smooth the access panels on the wing upper surface along with the spent cartridge ejector ports on the under surface. An ejector port should also be represented for the newly repositioned cannon, and a small length of black decal is adequate in this case. No machine gun ports should be visible along the wing leading edges in this variant.

My chosen subject was finished in the standard camouflage of Dark Green and Ocean Grey uppers with Medium Sea Grey under surfaces and Yellow wing leading edges. The rear fuselage band was in Sky while the spinner was painted White. The Tally Ho sheet provides roundels for the wing's upper and lower surfaces as well as the large style of fin flash which also extended on to the rudder. Also included are the serial number and codes, the latter applied to the fuselage without a roundel marking. The decals were commendably thin and were applied without any problems being encountered.

Once again I would suggest the CMR kit if the Mk IXE is used as a basis for anyone who chooses to

build this variant as this resin kit must surely be the best Mk IXE kit available to us, while CMR kit no 227 depicts the Mk IXC operated by Czechoslovakians in the RAF.

Denmark

Denmark operated only a small number of Spitfires, all of which were taken on charge after the war in Europe came to an end. The first Spitfires to be received were three PR.XIs which arrived in the second half of 1947. Deliveries of Spitfire Mk IXEs commenced in October 1947 and a total of thirty-eight of this variant were used operationally by the Danes. A small number were also acquired for ground instructional purposes while a further three were used as a source of spares.

The Spitfire's operational life in Denmark came to a close in June 1955 when the type was withdrawn from service.

Representative Aircraft

Spitfire PR.XI 42/453 ex RAF PM134 of the Royal Danish Air Force, Kastrup, circa 1947/48.

Construction

For my Danish representative I turned to Ventura for their depiction of a PR.XI, item no. V020, which was produced as a limited-run resin kit. Accompanying the kit was a booklet, which as well as including a simple construction guide was very useful in that it contained scale plans, drawings, and photos of the subject matter including close-ups of salient features, along with a painting guide and drawing showing where various stencils were located. Decals were provided for aircraft from the American Eighth Air Force, Denmark and Norway.

The resin was rather brittle and a razor saw was needed to remove various parts from their moulding gates to avoid damage, followed by careful cleaning up. As this kit was confined to a limited run of 300 we need not spend too much time discussing its construction. Surface detail comprised finely recessed lines. All the relevant lumps and bumps associated with the type were correctly located, but there were no camera aperture ports. These could, of course, be drilled out, etc, but I shied away from this due to the thickness of the resin and used Silver paint to simulate the lenses.

Due to the relatively small number of parts in the kit, assembly was straightforward, but care was needed due to the nature of the medium. I replaced the resin propeller and spinner with items from my spares

box, but on reflection the spinner appears to be too rounded and should really be replaced with a more accurate example. I also resorted to the Aeroclub range for a set of main undercarriage legs in white metal. The resin main wheels were used as was the PR transparency which was nicely depicted.

I opted to follow Ventura's painting guide as well as using their decals for the Danish PR.XI in an overall scheme of PRU Blue. The kit decals proved to be very thin and needed careful handling otherwise they showed a tendency to break up. Once they had settled in place I wasn't too happy about how the Red areas of the roundels and fin ensign looked, so I overpainted them with gloss Red from the Humbrol range. The wing walkway lines came from my decal bank. Finally, a few coats of Klear sealed everything in place and gave the finished model the kind of sheen that I associate with the PR types.

This kit was not without its issues, but the end result captures the look and sit of the Spitfire.

Egypt

Egypt was one of the countries that had expressed an interest in the Spitfire in the immediate pre-war period, but it was not to receive any aircraft at this stage due to the outbreak of war. It was not to be until 1945 that Egypt took delivery of her first Spitfires when Mk VB and VC variants started to arrive. Later, Mk IXs were received and ultimately nineteen Griffon-powered F.22s, which arrived in 1950. Also on strength was a single Tr.IX. Egypt had expressed a desire to receive more of the trainer variant as well as Mk XVllls, but these were not forthcoming. When Egypt began receiving her first Meteor jet fighters in 1955, her remaining Spitfires were gradually withdrawn from front line service and relegated to the advanced training role. In 1956 the last of the type was withdrawn from service.

It is interesting to note that Spitfires from RAF units were involved in clashes with both Egyptian and Israeli Spitfires in 1948 during which time Spitfires claimed kills against Spitfires.

Representative aircraft

Spitfire Mk VC, JK195, 'C' of the Royal Egyptian Air Force based at No.107 MU at Kasfarcat in May 1947.

Construction

Another 'oldie' from my collection again based on the Airfix Mk VB kit's fuselage. This time I used the Fujimi kit's Mk XIVC wings as Airfix hadn't released their VC when I undertook this work. Consequently, some work





had to be undertaken before The VB's radiator and oil cooler could be used. The Vokes tropical filter was a resin aftermarket accessory. This build would have been much easier and quicker had I used the Airfix Mk VC kit while the tropical intake could also be sourced from the excellent Italeri kit which also includes the Aboukir filter. Camouflage colours are Dark Earth and Mid Stone uppers with Azure Blue under surfaces. A Sky spinner and rear fuselage band completes the scheme. Decals for this particular aircraft can be found on Carpena's Exotic Spitfires decal sheet #72.10 with Egyptian Spitfires being a popular subject with other decal manufacturers as well.

France

France took delivery of a single Spitfire Mk I in June 1939. Given the identity '01' in French service, this was the 251st production aircraft. Although she was never given an RAF identity, she appeared on the production line immediately after L1036 and before L1037. After delivery to France there was little opportunity to test and evaluate the aircraft's capabilities, and she was captured virtually intact by the Germans at the French Air Force's test centre at Orleans Bricy on 18 June 1940 before she could be destroyed. As such, she was one of the first Spitfires to be captured by the Germans.

Many French pilots were to make their way to England and join the RAF following the fall of France in 1940. Soon there were enough French personnel within the RAF for a Free French Squadron to be formed, namely No. 340. By the end of the war, the tally of Free French squadrons had risen to eight, all of which operated Spitfires during their service with the RAF. At the end of November 1945, these units and their equipment were transferred to the French Air Force.

With the return of peace, France attempted to reassert her influence and authority on her territories in Indo-China. Having been occupied by the Japanese during the war, the people of Indo-China were in no mood to substitute one set of foreign rulers for another now that the Pacific war had come to an end. As a result, France found herself embroiled in a futile attempt to assert her influence over Indo-China from 1945 until she withdrew her forces in 1953. Again the Spitfires and Seafires were at war.

Meanwhile, France's naval air arm was attempting to make up for time lost during the war. As an interim

solution, Spitfire IXs were used until the French Navy could acquire a carrier of their own as well as suitable naval aircraft. In February 1946, the Mk IXs were supplemented by deliveries of the Seafire III, while in August of the same year the Royal Navy carrier HMS Colossus was loaned to the French Navy for a period of five years, in whose service she was named Arromanches.

However, Seafire losses due to accidents, being unserviceable for various reasons as well as airframes having exceeded their flying hours, were very high. This resulted in the numbers of aircraft available for the Arromanches being insufficient for an air wing to be maintained. Consequently, Seafire XVs were ordered in 1949, but again the attrition rate was high.



France's Seafires were finally withdrawn in 1950 and replaced by Corsairs and Hellcats which were much more suitable for carrier borne operations. On land, however, France's Spitfires were to continue in operation until 1953 when the Armée de l'Air withdrew the last of the type from service.

Representative aircraft

Spitfire Mk IXE, ML137, 'P', of GC 11/4 'La Fayette' in Hanoi in September 1948 as per CMR kit no. 177, Spitfire IXE / XVII in International Service.

Construction

CMR's kit of the Spitfire IX / XVI in International Service is a little gem, which will allow you to depict either



the Mk IXE or early production high-backed Mk XVII, both being externally virtually identical. So, what do we get? CMR offer a host of alternative parts to hang from your model, a beautiful fret of photo-etched parts, masks for the transparency and decals for no fewer than seven aircraft representing four different air forces.

The preparation work involved with resin kits has already been discussed and need not be repeated here. Construction is shown in detailed pictorial form and commences in the cockpit area. As well as the resin parts, many of the photo-etched items are used to detail the cockpit area, including sidewall detail, the instrument panel, the pilot's harness and various smaller items which are attached to the sidewalls and seat. Some are very small, fodder for the carpet monster, perhaps?

Once the fuselage halves have been joined, we have to decide upon which style of exhaust manifolds to fit. A choice of rounded or fishtail are provided, so check what your subject had. Then, on to the wings which come as complete one-piece castings. As with all of the kit's surface detail, this is represented by finely recessed panel lines and it is obvious that a great deal of care and love has gone into the preparation of this kit. CMR provide no fewer than three different versions of wings, so again check your intended subject. The first wing is the standard span variety which comes with a choice of separate cannon fairings and the muzzle for the 0.5" Brownings. Next we have a clipped wing with integrally cast armament, followed by the third wing which differs from the second in that it has the small bulges on the upper surface over the wheel well area. The horizontal tail surfaces are separate, and we are provided with both the standard rudder as well as the later pointed variety.

Work then progresses to the under surfaces. Here we have etched grills to replicate the radiator matrix, etched main undercarriage doors and a variety of etched main wheel hubs. The four-blade propeller comes as a one-piece casting as well as a choice of separate blades and spinner. A wide variety of stores for the under surfaces are included ranging from two sizes of slipper tanks, a single 500lb bomb for the centre line, two 250lb wing mounted bombs as well as practice RPs. Plenty left over for the spares box! Photo-etched parts are provided to detail the bomb shackles. Back in the cockpit, two styles of gunsights are catered for, while a beautifully clear vacform canopy completes the package, and yes, masks are provided for the framework!

As previously mentioned, seven aircraft from four air forces are our options to choose from, namely three RNoAF Mk IXEs, two with standard span wings with the third sporting clipped wing tips; two French Mk IXE variants, both with clipped wings; a SAAF Mk IXE with standard span wings; and finally an RAF Mk XVII, ex No. 302 Polish Squadron, as exhibited in Warsaw in October 1945.

I couldn't resist the French option, ML137, with

the attractive sharkmouth. This aircraft was based in Hanoi in 1948 and in addition to the sharkmouth, featured a tricolour flash on both the fin and rudder, no doubt as a result of being fitted with a replacement. A Red spinner completes the colourful finish. The decals are beautifully thin, in perfect register, and settled in place without any problems, including the sharkmouth which had to conform to some complex curves.

Germany

Germany never ordered any Spitfires or expressed any interest in producing the type under licence. However, the Luftwaffe was very interested in evaluating the Spitfire in order to gauge the strengths and weaknesses of the aircraft they expected to encounter in combat after Britain's declaration of war in September 1939. The only way that this could be achieved would be by capturing an example intact.

The first intact RAF Spitfire to fall into the Luftwaffe's hands was No. 74 Sqn's K9867, which was captured at Calais-Marack airfield by German troops on 26 May 1940. The aircraft had force-landed on 23rd while it was still in Allied hands, but it was not possible to recover or destroy her before German forces overran the airfield. A number of other Spitfires were to be captured by the Germans in the following weeks and one, if not more, were taken to Rechlin for trials and evaluation purposes. Reports were compiled, and the Spitfire was judged as ranging between a worthy opponent and an inferior aircraft - depending upon the bias of the compiler, perhaps?

As the war progressed, later versions of the Spitfire would be captured. One such example was a PR.XI which was later to be operated by the Sonderstaffel Wanderzirkus as T9 + EK. Also known as the Zirkus Rosarius this unit operated captured Allied aircraft, and would visit operational units so that their personnel could familiarise themselves with the aircraft they could expect to encounter in combat and to develop countermeasures and thus increase their

chance of survival. Consequently, many of Zirkus Rosarius's aircraft wore what would be termed as high visibility markings. Such was the fate in store for Spitfire PR.XI, EN685, from No. 542 Sqn. which was lost over Germany in September 1944. Once thought to have been PL782 as operated by the USAAF, it is now believed that T9 + EK's true identity was EN685.

Representative aircraft

Spitfire PR.XI, ex RAF EN685, as operated by the Zirkus Rosarius coded T9 + EK. This aircraft is depicted on Ventura Decals' sheet V7258.

Construction

The Luftwaffe representative in my collection is a survivor from my original project of many years ago. As such it was based on the Hasegawa Mk IXC kit along with a one-piece resin deepened nose with an integrally cast Vokes carburettor air intake. My belief is that the resin conversion part is no longer available, but if wrong I offer my sincerest apologies in advance. To detail this build would therefore be superfluous, especially when considering that builds and conversions of other PR.XIs have already been noted. However, to update my project, I offer a few thoughts on how a PR.XI could be built with what we have today.

- Basic kit, -Airfix Spitfire Mk IXC with a broad chord rudder taken from the spares box or similar
- Deepened nose, fuel tank fairings as well as the small teardrop shaped fairing on the starboard side of the nose, again as the Norwegian build
- Airfix Vokes filter
- All armament deleted, following the procedures described in the Norwegian build
- Camera ports drilled out of the under side of the





centre section and glazed

- Fuselage mounted oblique camera port drilled out and glazed if applicable
- Tail wheel doors fabricated from plastic card
- Solid main wheel hub covers were fitted to some aircraft - represented by plastic card discs or filler sanded smooth
- The PR style transparency will have to be sourced from an aftermarket supplier
- To the best of my belief, Ventura sheet no. V7258 is still available

If T9 + EK is to be modelled, she was finished in an eye-catching scheme of RLM 04 Gelb on her undersurfaces as well as her vertical and horizontal tail surfaces, which extend up to the fuselage trans-port joint. The colour demarcation on her lower nose cowl does not follow the usual panel line, but comes to a point behind and below the spinner. The upper surfaces were finished in RLM 71 Dunkelgrün overall, as was the spinner. In this instance the fuselage camera port has been overpainted. Some evidence of repainting on the fuselage sides is evident in photos - overpainting a previous code, perhaps? - and I replicated this with slightly lightened RLM 71. Ventura's decals are very thin and are produced on a single carrier sheet, so remove each decal with care. The oversize crosses and swastika are very prominent on the completed model as per the original, a totally intentional feature.

Several other Spitfires were flown in Luftwaffe colours and markings, so other examples are possible. How about the Mk VB which was re-engined with a Daimler Benz powerplant and actually test flown? Researching these captured machines is always more difficult than is usually the case, but to me it does add to the enjoyment of the hobby.

Greece

Greece was very interested in buying and producing Spitfires under licence in the pre-war period and agreement was very close when Hitler's invasion of



Poland put paid to all such plans. Indeed, it is interesting to speculate how the German invasion of the Balkans and Greece would have panned out had Spitfires been available to the Royal Hellenic Air Force at that time.

Two Greek-manned squadrons were formed within the RAF during the war, namely Nos. 335 and 336, both of which were equipped with Spitfires. At the end of 1944 both squadrons were handed over to the Greek Air Force and continued to operate alongside Allied forces. After the war the Greeks received further Spitfires in the form of Mk Vs and IXs from stocks held by the RAF in aircraft pools in the Middle East. Later, Mk XVIIs were received and these were flown directly from the UK to Greece. Greece operated her Mk Vs until early in 1947 when they began to be replaced by the Mk IX, which in turn soldiered on up to 1953.

The first Mk XVIIs began to arrive in 1948 with a total of some seventy-six low-back variants being received. These were operated until 1954 when the last examples were retired having been replaced by jet aircraft.

Representative aircraft

Spitfire Mk IXC, MJ755, of the Royal Hellenic Air Force bearing the serial TA654 as she appeared when displayed at the Hellenic War Museum in Athens circa 1996.

Construction

This model was also based on the Hasegawa Mk IXC kit and was laid down in my stash in the days before Hasegawa prices soared. This kit's salient features and its build are described elsewhere and therefore do not warrant repeating at this stage. In this case, I fitted the clipped wing tips, the standard rudder and the larger carburettor air intake.

I chose to depict my subject as she appeared on display around 1996 in Athens whilst posing as TA854. Subtle changes in her appearance have been observed over the years, but at the time of my build she appears to have sported Dark Green and Ocean Grey upper surfaces with Medium Sea Grey under surfaces together with a Sky spinner and rear fuselage band. At the time of my build, sourcing suitable Greek decals was a problem, but I eventually overcame this by using RAF Type A roundels and an equal width fin flash, which I modified by overpainting the Blue and the Red with RLM 24 Blau which looked about right. Roundels were carried in all six positions while the serial number was in 8" high Black characters. Large anti-slip areas were apparent on both wing roots.

Since I completed this build, CMR have released kit no. 169 of the Spitfire LF XVIIIE low-back variant. Amongst the schemes catered for are decals for three RAF aircraft as well as representatives from Greece, France and Belgium. Lovely! **MA**

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Modellers Portfolio

F4F Wildcat

In colour and scale

By Jack Trent

In this month's selection of artwork and plans Peter Scott charts the evolution of US Navy wartime colours and markings with colour profiles and scale drawings of the F4F Wildcat.



The Grumman F4F-3S Wildcatfish (or Wild Catfish), BuNo 4038. Developed for use at forward island bases in the Pacific, before the construction of airfields, it was inspired by appearance of the Mitsubishi A6M2-N Rufe, a modification of the Mitsubishi A6M2 Zero/Zeke. The F4F-3S was first flown 28 February 1943. The weight and drag of the floats reduced the maximum speed to 390 km/h (241 mph). Edo provided 100 sets of floats, but as enough air bases were available, it was unnecessary to proceed with further floatplane conversions, and the project was cancelled (US Navy)



Grumman F4F-4 of Fighting Squadron Three (VF-3) at Naval Air Station, Kaneohe, Oahu, on 29 May 1942, with ground crewmen folding the starboard wing. On 4 June 1942, in the Battle of Midway, this plane was flown by Lieutenant Commander John S. Thach, VF-3's Commanding Officer, during the afternoon combat air patrol defending USS Yorktown (CV 5), wherein Thach probably shot down Lieutenant Joichi Tomonaga, leader of the attacking Japanese torpedo planes



Two US Marine Corps Grumman F4F-4 Wildcat fighters at Henderson Field, Guadalcanal, Solomon Islands in 1942 (US Navy)



F4F-3 Wildcat fighters, of Fighting Squadron Three (VF-3) in flight near Naval Air Station, Kaneohe, Oahu, Hawaii, 10 April 1942 (US Navy)



Grumman F4F-4 Wildcat fighters from Fighting Squadron VF-6 pictured on one of the aircraft elevators on board the aircraft carrier USS Enterprise (CV 6) during the Doolittle Raid, 17 April 1942 (US Navy)

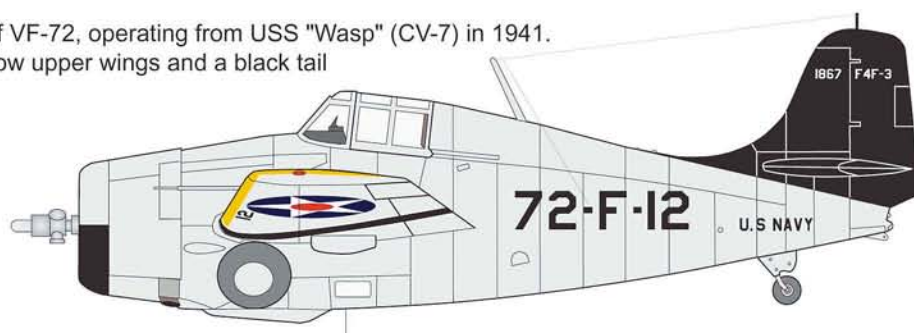


Grumman/General Motors FM-2 Wildcat at the NACA Langley Research Center on 22 January 1945. Note the zero-length rocket launchers under the wings (NASA)

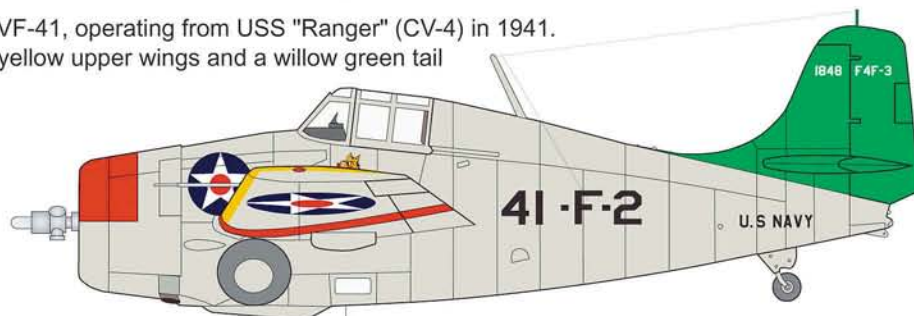


Grumman F4F-4 Wildcat on the ground with its engine running at Guadalcanal, circa 1942 (US Navy)

Grumman F4F-3 "Wildcat" 72-F-12 of VF-72, operating from USS "Wasp" (CV-7) in 1941. Painted silver overall, with chrome yellow upper wings and a black tail (for USS "Wasp").



Grumman F4F-3 "Wildcat" 41-F-2 of VF-41, operating from USS "Ranger" (CV-4) in 1941. Painted overall light gray, with chrome yellow upper wings and a willow green tail (for USS "Ranger").



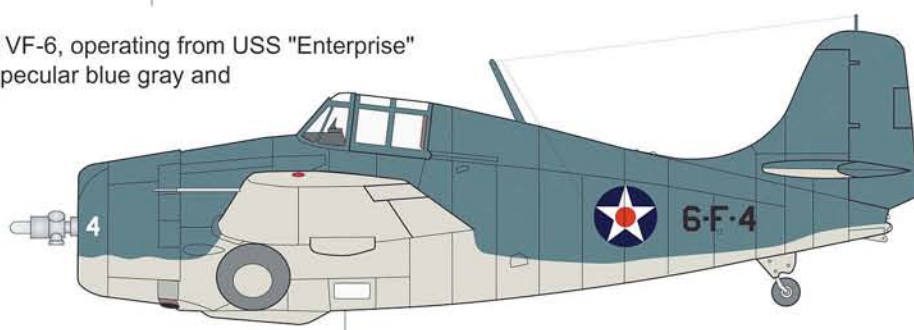
Grumman F4F-3 "Wildcat" 111-F-1 of VMF-111, based at Quantico, Virginia. This unit formed part of "Orange Force" in the war games held in South Carolina in August 1941.



Grumman F4F-3 "Wildcat" 3-F-9 of VF-3, operating from USS "Saratoga" (CV-3) in October 1941. Cockardes in four positions.



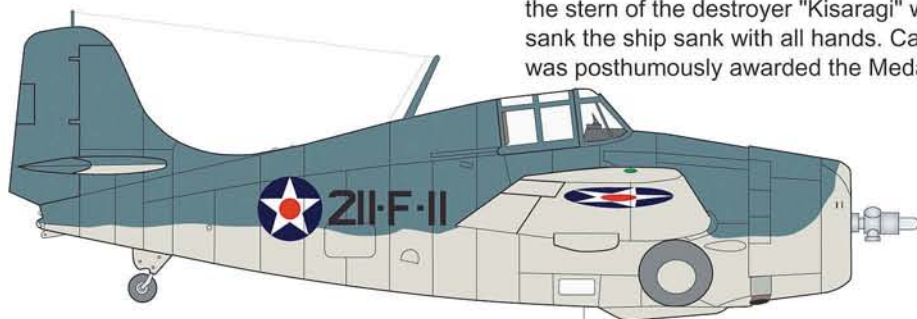
Grumman F4F-3 "Wildcat" 6-F-4 of VF-6, operating from USS "Enterprise" in December 1941. Finished in non specular blue gray and non specular light gray.



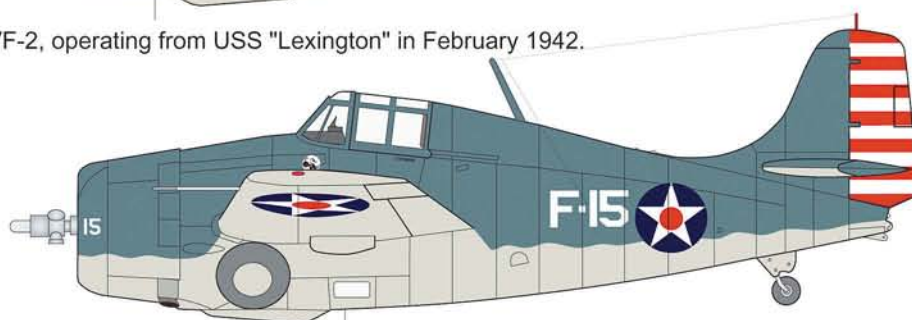
Grumman F4F-3 "Wildcat" 211-F-11 of VMF-211, based at Wake Island in December 1941.



Grumman F4F-3 "Wildcat" 211-F-11 of VMF-211, based at Wake Island. On 11th December 1941, Capt. Henry T. Elrod dropped two 100lb bombs onto the stern of the destroyer "Kisaragi" which detonated amongst depth charges and sank the ship with all hands. Captain Elrod was later killed in action and was posthumously awarded the Medal of Honor.



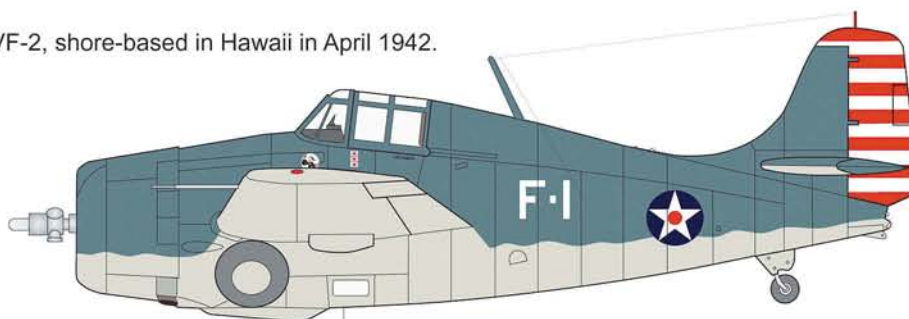
Grumman F4F-3 "Wildcat" F-15 of VF-2, operating from USS "Lexington" in February 1942. Flown by Lt. E.H. O'Hare.



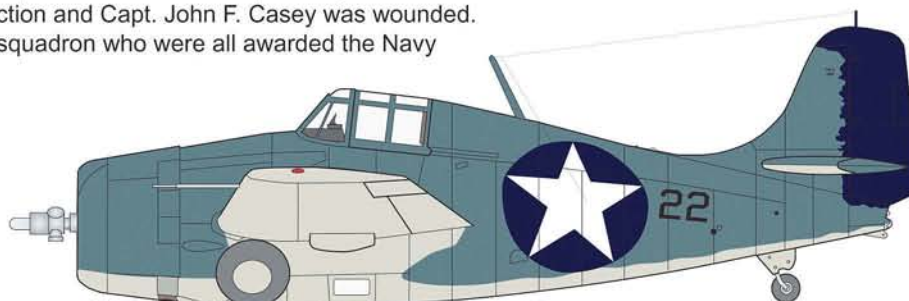
Grumman F4F-3 "Wildcat" F-9 of VF-2, operating from USS "Lexington" (CV-2) in February 1942.



Grumman F4F-3 "Wildcat" F-1 of VF-2, shore-based in Hawaii in April 1942. Flown by L/Cdr. John S. Thatch.



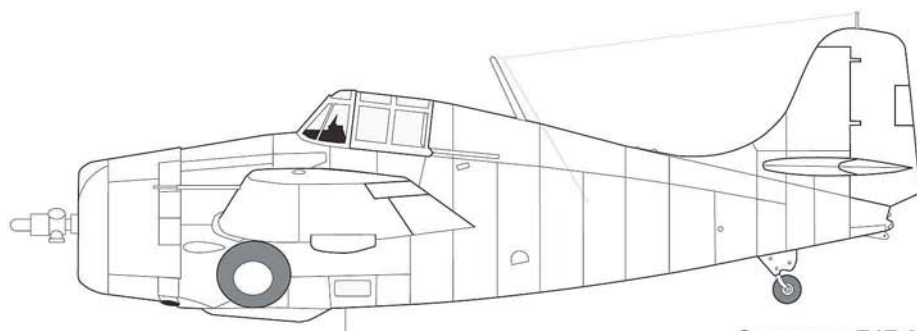
Grumman F4F-3 "Wildcat" of VMF-221, based at Sand Island, Midway. On 4th June 1942, it was damaged in action and Capt. John F. Casey was wounded. He was only one of 23 members of the squadron who were all awarded the Navy Cross for their actions on that day.



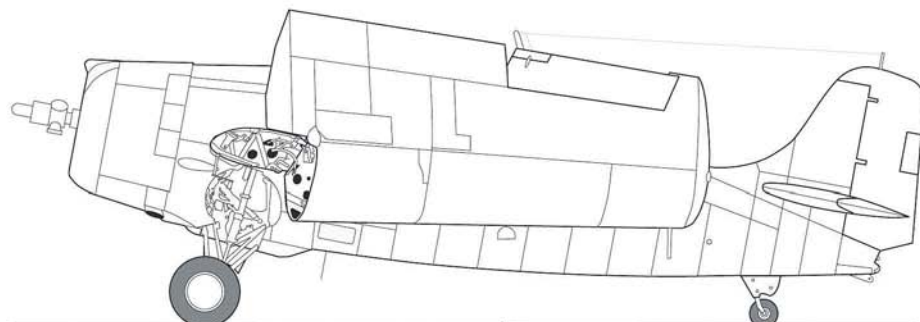
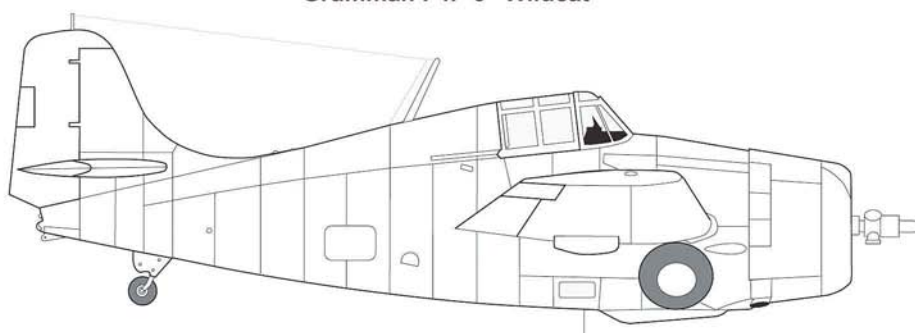
Grumman F4F-4 "Wildcat" 29-GF-10 of VGF-29, operating from USS "Santee" on 8th November 1942, in Operation "Torch", the Allied landings in North Africa. Flown by Ensign Joe Gallano.



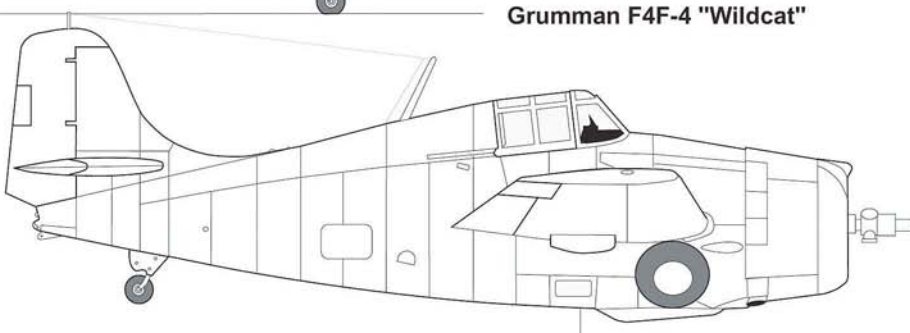
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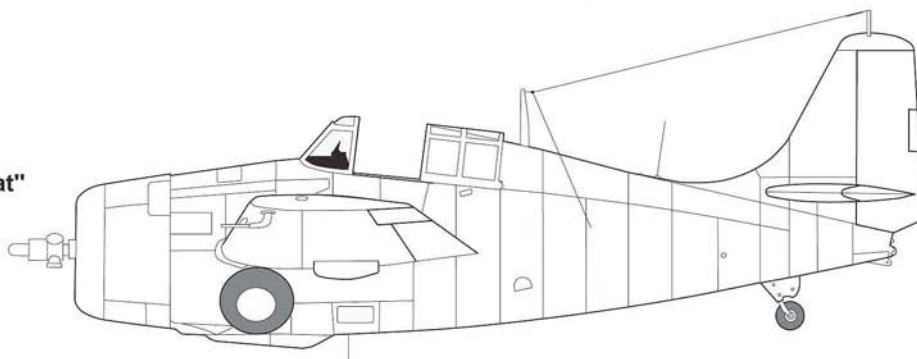
Grumman F4F-3 "Wildcat"



Grumman F4F-4 "Wildcat"

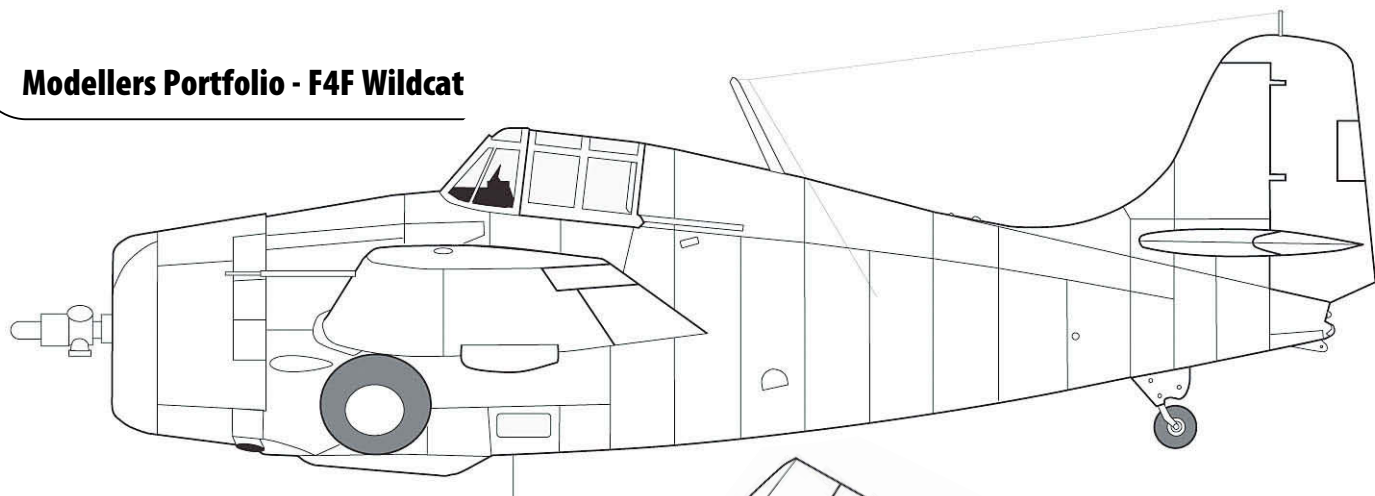


General Motors FM-2 "Wildcat"

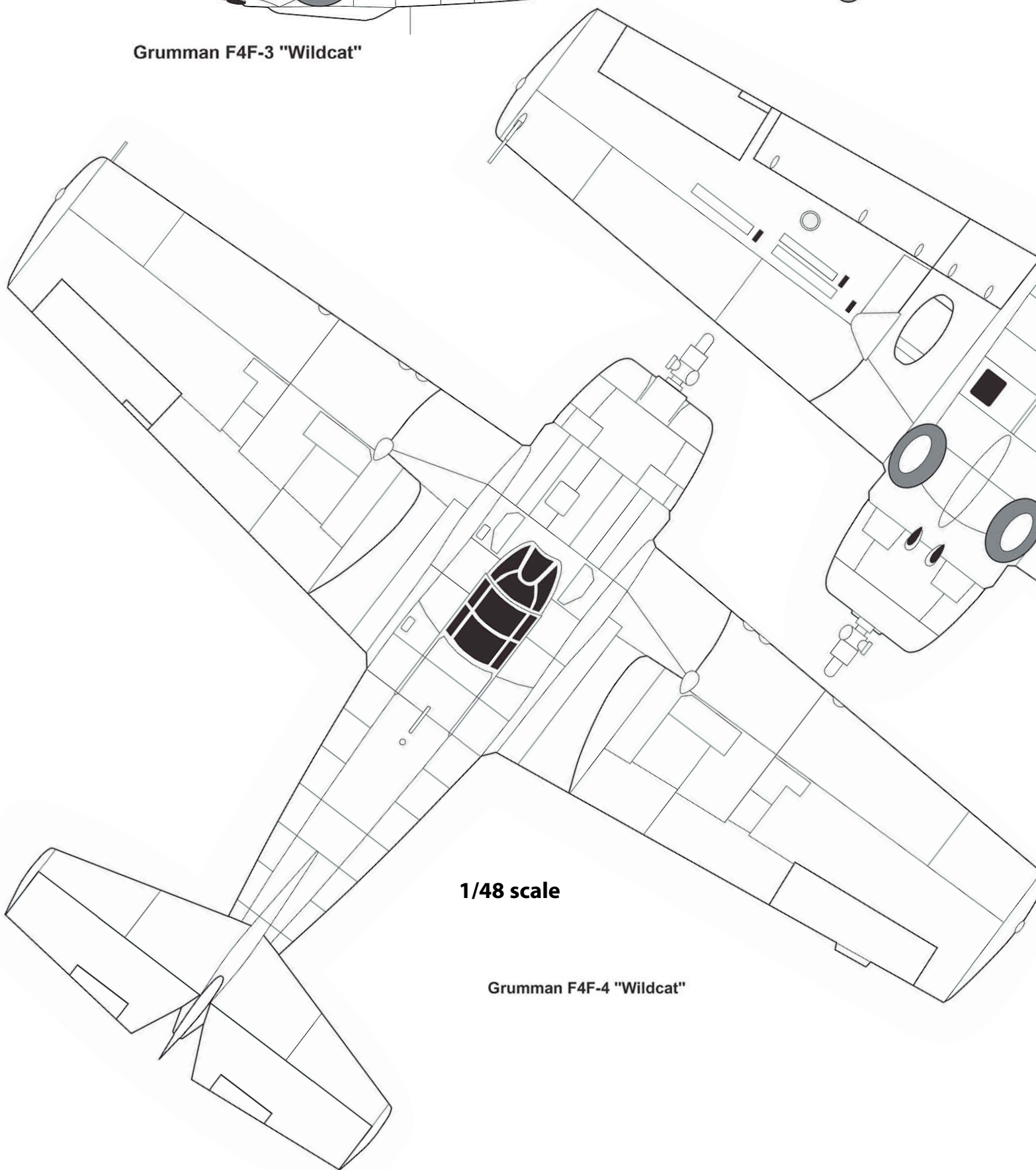


Scale Conversions

1/72	-	1/32	-	x	225%
1/72	-	1/48	-	x	150%
1/72	-	1/144	-	x	50%



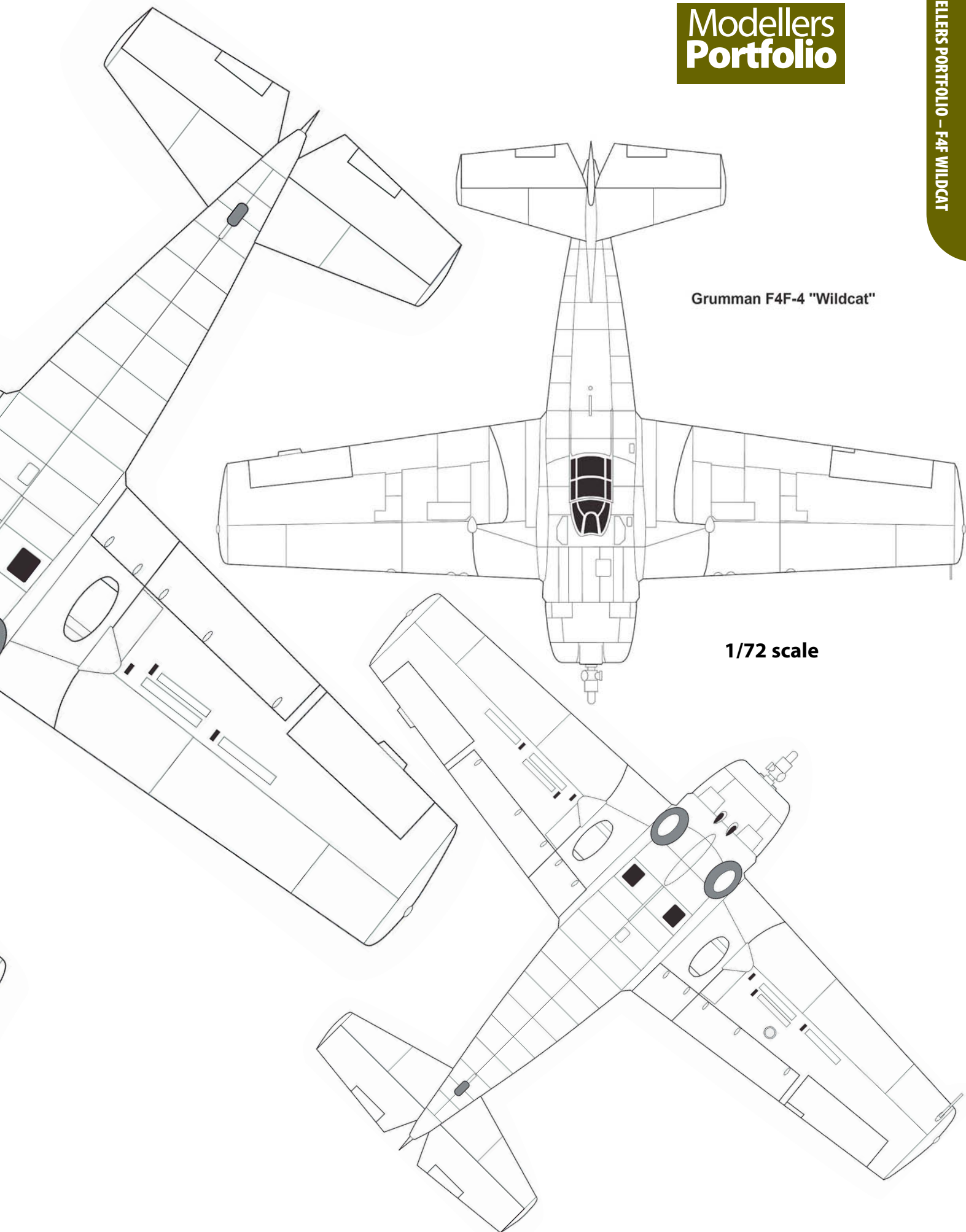
Grumman F4F-3 "Wildcat"



1/48 scale

Grumman F4F-4 "Wildcat"

Modellers Portfolio

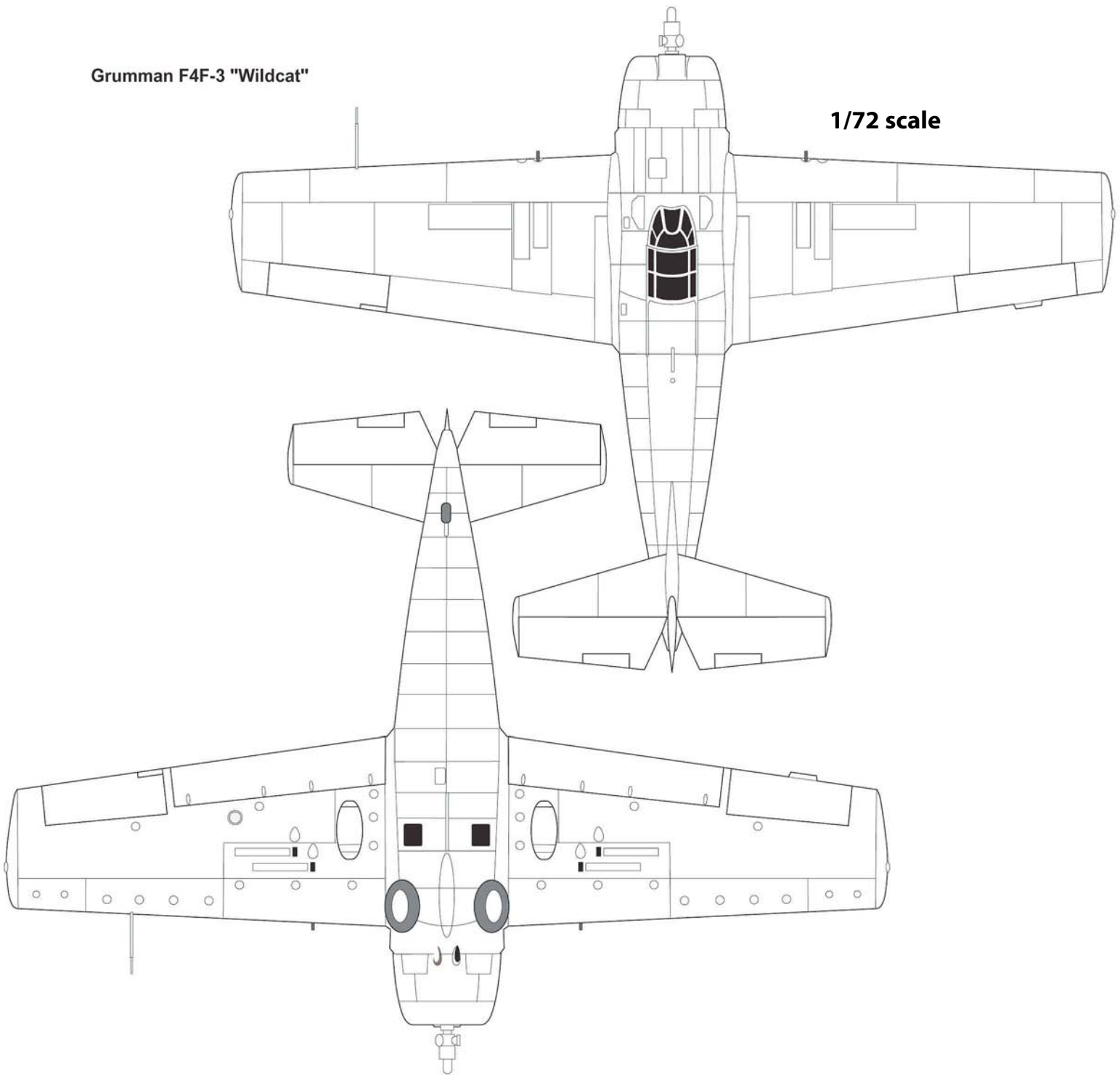


Grumman F4F-4 "Wildcat"

1/72 scale

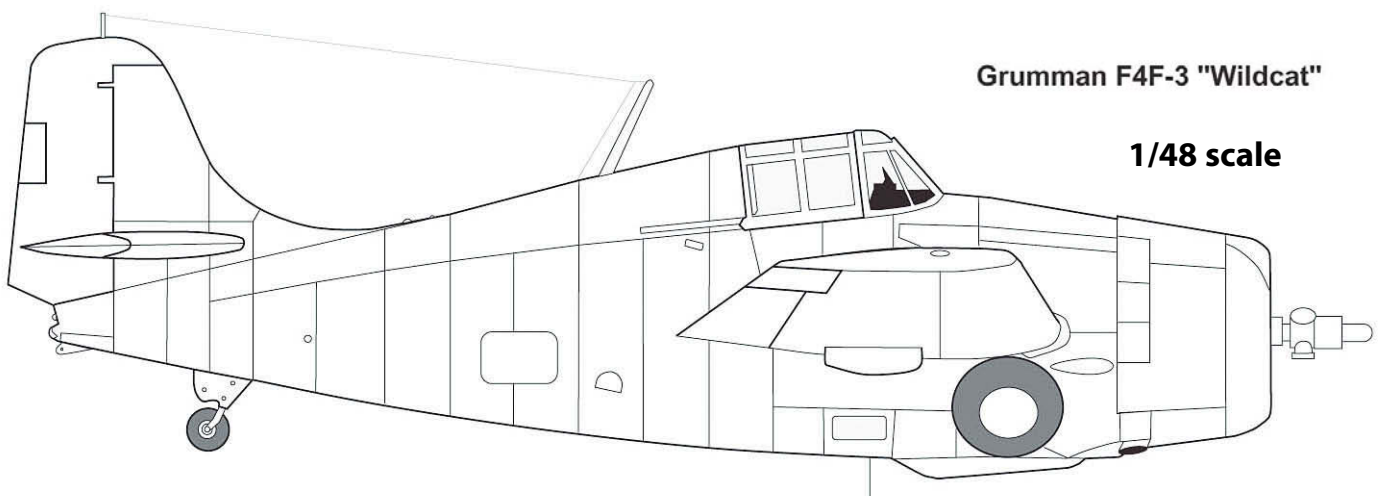
Grumman F4F-3 "Wildcat"

1/72 scale



Grumman F4F-3 "Wildcat"

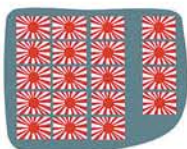
1/48 scale



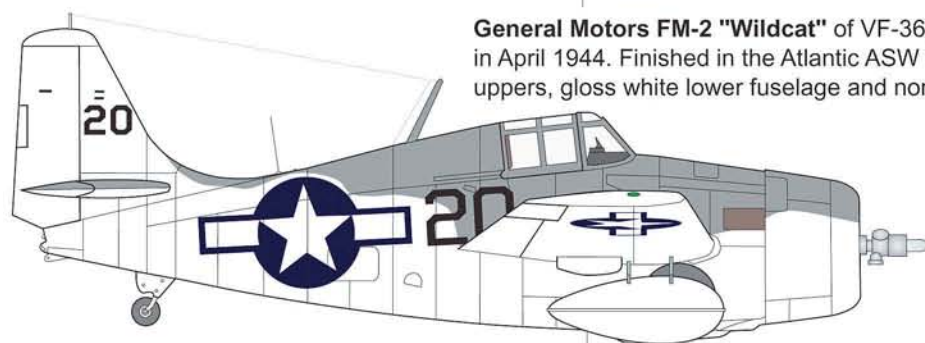
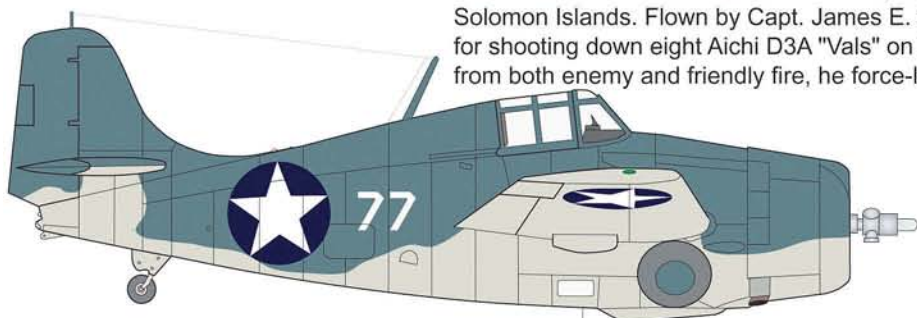


Grumman F4F-4 "Wildcat" of VF-41, operating from USS "Ranger" (CV-4) in November 1942, during Operation "Torch".

Grumman F4F-4 "Wildcat" of VMF-233, based at Henderson Field, Guadalcanal, Solomon Islands, in September 1943. Flown by Capt. Marion Carl.

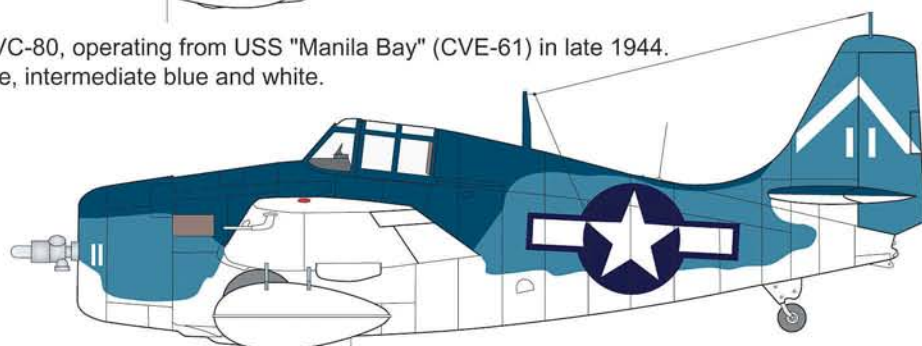


Grumman F4F-4 "Wildcat" of VMF-221, based at Henderson Field, Guadalcanal, Solomon Islands. Flown by Capt. James E. Swett, who was awarded the Medal of Honor for shooting down eight Aichi D3A "Vals" on 7th April 1943. Due to battle damage from both enemy and friendly fire, he force-landed safely into Tulagi harbour.



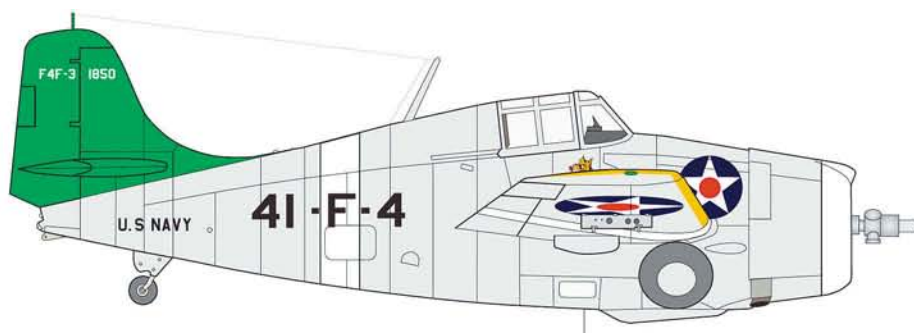
General Motors FM-2 "Wildcat" of VF-36, operating from USS "Core" (ACV-13) in April 1944. Finished in the Atlantic ASW camouflage scheme of dark gull gray uppers, gloss white lower fuselage and non specular white sides and under wings.

General Motors FM-2 "Wildcat" of VC-80, operating from USS "Manila Bay" (CVE-61) in late 1944. Painted in a 3-tone pattern of sea blue, intermediate blue and white.

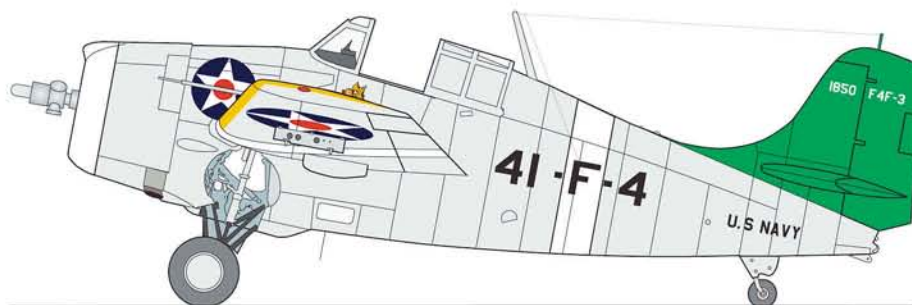
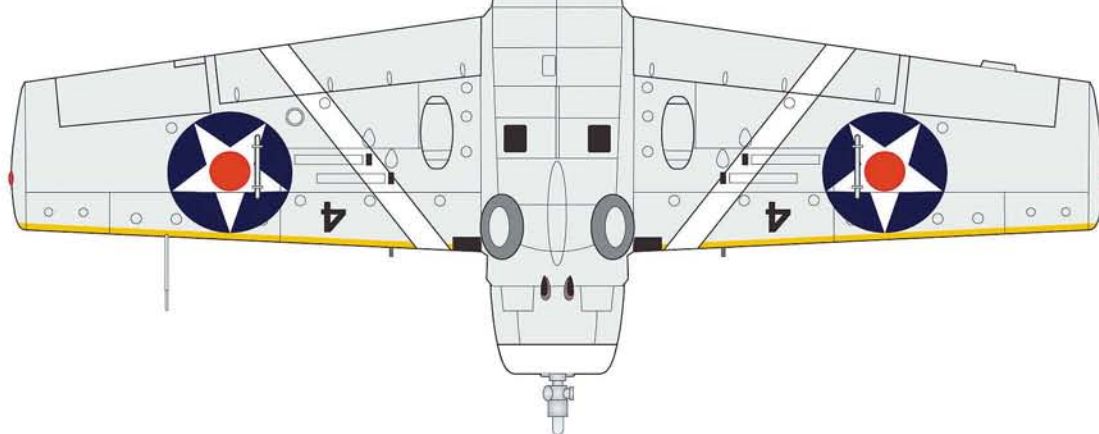
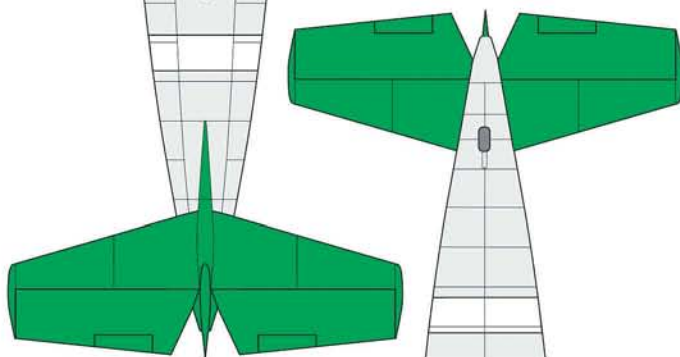
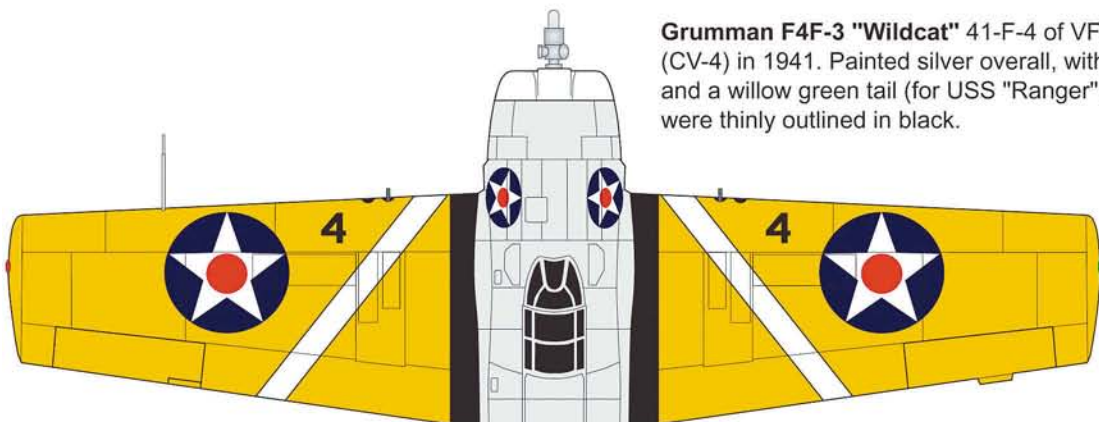


General Motors FM-2 "Wildcat" of VC-93, operating from USS "Petrof Bay" (CVE-80) in May 1945. Sea blue gloss overall.





Grumman F4F-3 "Wildcat" 41-F-4 of VF-41, operating from USS "Ranger" (CV-4) in 1941. Painted silver overall, with chrome yellow upper wings and a willow green tail (for USS "Ranger"). The white cowling and bands were thinly outlined in black.





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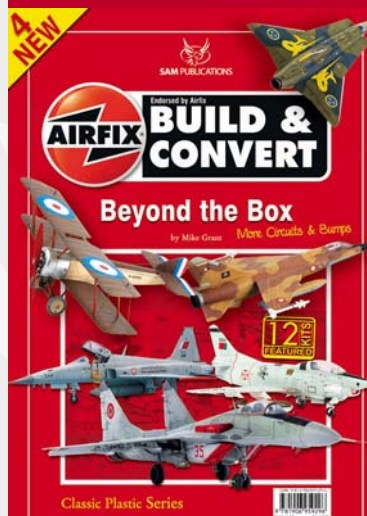
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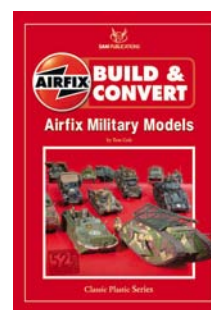
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IPMS (UK)

Presented by Chris Ayre

The Same, Only Different!

Regular readers will know that 2013 marks the 50th anniversary of IPMS (UK) - and by extension the worldwide network of IPMS organisations. I may already have mentioned this fact a couple of times... With plans to mark the occasion being focussed on Scale ModelWorld in November, I thought I'd take a brief look at how the Society has developed over the last half century and also give you a flavour of some of the things you can expect to see at SMW.

Some things, as might be expected, haven't changed. For example, the founding principles of what was, briefly, the British Plastic Modellers' Society remain broadly the same. IPMS welcomes modellers of all ages and abilities, whatever their interests and experience. It doesn't matter whether you spend years scratch building complicated models from hand-drawn plans or if you simply buy a starter kit, complete with glue and paints, and finish it in an afternoon. As the name of the Society suggests, the only real pre-requisite is that the primary building material is some kind of plastic. As for what you build, that's entirely up to you - ships, armoured vehicles, cars, motorcycles, space craft, figures, trains, dioramas, science fiction subjects, fantasy subjects, something from your imagination - it matters not. In the hobby as a whole, aeroplanes tend to dominate and that's something that hasn't really changed, but the range of subject matter has broadened considerably over the years. As an illustration of this, there are currently almost 100 categories in the Scale ModelWorld National Competition, including a couple of miscellaneous categories for those subjects that only you thought of! I'm getting a little off track here though as the Competition is something that has, of course, changed over the years. The sheer size of it is a reflection of the growth of

the Society and that's something I'll come back to.

IPMS is also about sharing your hobby with others. One of those founding principles was that the Society should be run "by modellers, for modellers" and it still operates on that basis today. Although IPMS (UK) has grown dramatically, with a twelve-man Executive Committee (EC) managing the various aspects of Society business, it has remained true to that tenet. Each member of the EC is an unpaid volunteer, an ordinary Member elected by their fellow modellers. And there are quite a lot of fellow modellers in the Society these days. IPMS (UK) Membership is at an all time high and steadily rising and I'm quite sure that, when that handful of individuals first met in a room in the City of London in 1963, they could never have imagined that there would be over 40 national IPMS bodies spread across the globe - all of which have adopted the ideals of the original organisation. I wouldn't like to hazard a guess as to how many IPMS Members that equates to. A look at the Overseas section of the IPMS (UK) website will acquaint you with just how widespread the Society has become.

Within the UK there are now over eighty local Branches but I do recall a time, in the years after I first joined, when UK Membership numbers were pretty static (and no, I don't think it was anything to do with me). I'm fairly sure that this period coincided with the time when the hobby as a whole was in the doldrums. Kit manufacturers weren't producing much in the way of new product and even the best known and established names in the modelling industry were struggling to keep their heads above water - some of them actually going under. It was frequently feared that the death of our great hobby was upon us. You young 'uns may not remember but the advancement of personal computers and games machines was often cited as a reason why younger modellers, in particular, were being lured away from plastic modelling. An exciting



The latest issue of IPMS (UK) Magazine

new technological world offered much more exciting pastimes...

As we know, to paraphrase Mark Twain, the reports of the death of the kit industry were greatly exaggerated and, after a period of consolidation and an explosion of new producers, we now almost appear to be in danger of becoming overwhelmed by a cornucopia of product (this is a theme to which I intend to return in a future column). IPMS Membership has been steadily rising over the last few years and I'm sure that the increase in available kits, plus associated tools and accessories, has sparked an interest that has contributed to the Society's resurgence. There are other factors though, not the least of which is that the Society EC has made positive efforts to raise awareness, with a more professional approach to publicity and promotions, for example. As it welcomes more and more modellers into the fold, IPMS (UK) continues to increase its range of Member benefits. These include a full-colour Society journal with high production values, providing for a more professional presentation of the content than was possible in the early days. That content, however, still comes from the Members and the magazine is the epitome of the "by modellers, for modellers" principle that goes right back to 1963. Other benefits are genuinely useful to the Membership - hobby retailer discounts, free or discounted model show entry, a free Decal Bank and Instruction Sheet Library, Special Interest Groups, etc. - and the Committee continues to work within the hobby to develop yet more advantages for Members.

Things have moved on in the last fifty years. The world has changed, as have some aspects of the Society. At its heart though, IPMS is still basically a group of like-minded individuals who enjoy getting together to share their love of plastic modelling. How they manage to organise the world's biggest and best model show is beyond me - but they do! Talking of which...

Scale ModelWorld 2013

So, what can we expect at SMW in November? Rather a lot, actually.... I can't tell you everything, chiefly because I don't know everything, but here are a few morsels to be going on with. There will be a 50th Anniversary 'timeline' display, illustrating the



A genuine Vietnam veteran, Bell UH-1H 72-21509 will take pride of place at Scale ModelWorld 2013 © Chris Ayre

development of both IPMS and the hobby more generally over the last half century. This will be supported by a stunning selection of models, including previous competition winners, and a large collection of other ephemera, such as box art, magazines and catalogues, spanning the period. Moving to larger exhibits, Science Fiction fans can look forward to a rather special display of original props and models from iconic TV shows such as Blake's Seven, Doctor Who, Red Dwarf and The Hitchhikers Guide To The Galaxy thanks to Mat Irvine and Mike Tucker (of TV special effects fame). Look out for Starbug, the Liberator, K-9, Marvin the Paranoid Android and the odd Dalek amongst a host of SF paraphernalia.

The Fylde Spitfire replica will be returning to the show this year, and thanks to sponsorship from Airfix, will be presented in a refuelling scenario alongside a genuine Bedford QL Fuel Bowser. The Shackleton Preservation Group will, as I mentioned last month, be bringing along their Shack MR.1 nose. Sticking with aircraft, perhaps the biggest news is that two Vietnam era helicopters will be flying into SMW and will be on display in Hall 3 all weekend. The UK's only flying Bell UH-1H Huey, accompanied by the equally unique Hughes OH-6A Cayuse - better known as the 'Loach' - will arrive on the Friday prior to the show. Both are documented combat veterans so Vietnam War enthusiasts and 'rotorheads' alike should be thrilled at the prospect of being able to get up 'close and personal' with these machines. STOP PRESS: More rotors - it has just been announced that Wing Commander Ken



The Shackleton Preservation Group will have their MR.1 nose at SMW © Colin Marrow

Wallis will be appearing at Scale ModelWorld with one of his World Record holding autogyros. It won't be 'Little Nellie' but this is your chance to meet the man who doubled for James Bond in You Only Live Twice and dispatched all of the enemy choppers by skilful flying of his heavily armed autogyro.

There will also be something for car enthusiasts at Telford, including a 1993 Dodge Stealth 1. I have to admit to knowing very little about sports cars but I'm told that this is one of only five of its type in the UK. That'll be good, then... And, naturally, armour fans will be well catered for - I just don't know what with but, as this is an aviation modelling magazine, perhaps you won't mind waiting until I find out!

One other thing that's new this year is that IPMS have organised a couple of UK tours, aimed at over-

seas visitors to Scale ModelWorld. There are two itineraries available, tailored to the differing needs of those wishing to see something of England in the days prior to the show. The tours, one of 7 days and one of 9, are designed with the modeller in mind and both visit many of the outstanding museums catering for aircraft, ship and armour enthusiasts, as well as a number of the 'must see' tourist attractions. Combined with the IPMS 50th Anniversary show, this is an opportunity to take the trip of a lifetime for many modellers. Further details can be found on the Scale ModelWorld website - smw-show.com/tour.php

So, looking good, eh? More announcements will be made in the run-up to the show (9th-10th November, just in case it's slipped your mind) and admittance to this fantastic event is free to all IPMS Members. Don't forget that all Members can also enter the 50th Anniversary National Competition, which promises to be the biggest and best ever. Entries are expected from around the world so just think of the prestige when you win.... **MA**

Until next time, enjoy your modelling.

Chris

www.ipms-uk.co.uk

Membership enquiries: Colin Marrow, 2 Kenilworth Road, Cubbington, Leamington Spa, Warwickshire, CV32 7TR or email: membership@ipms-uk.co.uk



Loach 011 will accompany Huey 506 to Telford. Scale ModelWorld Manager Richard Kent shows his approval © Chris Ayre

Long Time Passing

Revell's 1/32 Tornado F.3...upgraded

By Gordon Scott



I suppose this project began in 1987 when I bought the Revell F.2 full of hope, looked at it and decided it needed a

fair bit of work to get a decent result. The longer I waited the more issues surfaced via various magazine 'experts' and I began to think that it would be a harder job than I first thought, but I really wanted a 1/32 F.3 - especially after seeing someone else's superb model with slats, flaps and panels open, so it went on the back burner waiting for someone with more talent than me to produce the add-ons. Flightpath duly obliged with their Tornado F.3 conversion with a new resin afterburner section and a few other pieces for the F.3. It was mostly a GR.1 upgrade but I saved up and bought it, ogled it, thought that it would be a long term job and being busy with kids, work and life put it all away safe in the loft.

I was pleasantly surprised when Revell updated their Marineflieger Tornado to GR.1 status and thought that a better F.3 would be just around the corner. After few more years and no F.3 I reasoned that I could probably use the Flightpath set with the newer Revell kit so the GR.1 was purchased only to discover that the kit's issues had been sorted out and as a result Flightpath's kit couldn't be used as it's designed for the original Tornado, so it was put on the back-burner again, until last year when Heritage



of an all singing, all dancing F.3 began, the tools were assembled, new blade fitted to the scalpel and with a box of plasters on standby it was time to begin....I really must learn to curb my impatience!

It was never the intention to make the kit for an article so there are no 'in build' images, which is probably just as well because the work required on the

announced their F.3 conversion. I made tracks to their stand at the Nationals, bought the conversion and after being forced to retire after thirty years as one of Her Majesty's Finest (cuts won't affect front line service! Ha!), a mere twenty-five years after the dream

rear body extension would probably permanently scar readers of a 'shake and bake' disposition as it's one of the few kits I've made, including vacforms, conversions and scratchbuilds that I've actually had to go and buy more filler for.

The Heritage set looks good in the box, although if you buy it expecting it to be on a par with a Cutting Edge, CMK or Aires set you'll be disappointed. Everything's there and most people will be happy with what's provided. Some like me will be happy with some of it. There's the rear extension, radome, front extension, spine plugs, Skyflash troughs, a pair of ALARM rails, a pair of AIM-9 rails, cockpit nav parts, tail vent, taileron seals, leading edge extensions, white metal nose leg, two sheets of photos





showing the conversion 'in progress' and the decal sheet, which is very good, has 111 and 25 Squadron options, but could provide more in the way of maintenance markings, heavy reliance being placed on the Revell GR.1 sheet. Some parts have bubbles and the resin has a rough feel but you'll soon cure that with sanding...

The Revell base kit was the revised GR.1, which has all the bits specific to the RAF version. Surface detail is very good and a challenge to replace at times. You could use the IDS version but will have to purchase the Flightpath fuel tanks. Over the years I've picked up the revised Flightpath GR.1/GR.4 set, which has a plethora of F.3 related goodies, the Paragon Flaps set (before it commanded silly money on eBay), Flightpath F.3 decal sheet, and as the build progressed the Aires afterburners. Xtradecal set 32001 and a GR.1 cockpit set were purchased.

There are a couple of sentences in the Heritage instruction sheet warning you that resin shrinkage has probably taken place and you'll probably need to do a bit of filling and sanding. Take heed - at one stage my wife commented she'd never seen me spend so much time over the kitchen sink! Where's she been for the past twenty years? Obviously not in the kitchen...

The Heritage radome in my kit was a variety of shapes, mostly oval; I'm still unsure if it incorporates the section joining the square fuselage to circular radome but it was never going to fit without surgery and filler so that's where I began. I used the GR.1



radome to determine the circumference, transferred the dimensions via masking tape to the most circular section of the resin radome and cut it off, the difference in length being made up with circular pieces of thick plastic card the same size as the Revell radome glued to the resin. Dips in the resin were filled with Greenstuff applied with a steel ruler, turned on its edge and laid along the parts to show up inconsistencies. I won't be using Greenstuff for this type of filling again - the dips were too deep and it had to be layered, which resulted in it not really setting, so be advised and use Milliput.

All was sanded, then refilled and sanded, until I had a radome of the right cross section and length. It was then superglued to Revell's nose transition part and left as a sub-assembly. Dry fitting to the fuselage halves had shown it fitted well and it's on a panel line so a small win was declared.

I thought the rear fuselage would be a bit of light relief. I glued the Revell top and bottom parts together without a problem then dry-fitted the resin extension; it's charitable to say it fitted where it touched, but the truth is it didn't touch very much, either way up, or side to side. I decided to cut it in half horizontally to get the best possible match top and bottom, but it still wasn't much of a match anywhere and it's probably best to say that when it's firmly glued to the plastic it provides a solid base for the filler. Usually when using Milliput I mix too much, but for this step make a lump, as you'll use it up. The filler was applied with my steel ruler and much time was spent



at the kitchen sink, block-sanding the top and sides. The underside slopes up towards the burners and is nicely curved so sanding pads are the answer here. Despite covering the beautifully rendered flexible steel seals on Revell's tail section they vanished and were replaced with individual 0.5mm plastic card oblongs (please don't ask - lost count) which promptly vanished later under a coat of primer.

The fin was assembled, installed and attention focussed on the 'hot end'. The base of the Tornado tail features a vent either side of this and such a part is provided by Heritage, but if you want to use it you'll need to extend its length and fair it in so that it reaches the afterburner buckets. I made my own, as I was restructuring the burner area anyway so I thought I may as well. Looking at photos of this area shows scope for adding detail, and initially I used Flightpath's renditions of the 'burners coupled with Revell's plastic parts but wasn't happy with the result so bought Aires' replacements. They're worth every penny, and something I've never bothered with on other kits, but the jump in detail is so great that I now consider them an essential part of any large scale project.



It was about this time that I had a phone call asking if I wanted my old job back on a temporary basis (cuts won't affect front line services! Ha!) so the project went on hold although I didn't put it away, largely because it was sprawled over and under the dining

room table, and by now it had become a challenge. After a week or so of not sanding, my fingers were itching, it may have been something picked up at work but I'm fairly certain it was the F.3, so I began to add detail to the rear fuselage; the APU exhaust is represented by a decal in Revell's kit. I made the hole and filled it with mesh, the taileron attachment parts were removed, holes drilled into both and through the body, a brass rod was inserted through the fuselage and left floating - great for holding them later when painting - and once painted and decalced they were fitted later. After priming the kit was rescribed where necessary. Revell's detail is very



good, well defined and a bit of a challenge to match. Enter Radu Brinzan's riveter - a great tool and it's had a bit of a bending on this kit. Light relief followed in the form of detailing the undercarriage bays with lead wire and decals from the spares bank followed by attaching the gear legs with the bays out of the fuselage; it wasn't a problem to install them through the open end of the fuselage but it made masking 'fun' later due to the complex nature of the legs!

I had always intended to install the wings with flaps and slats deployed and push fit the wings through the open slots so storage isn't a problem, but don't fix thick plastic card under the fuselage spine to take the flex out of the body, as if you do you'll never install the wings later - ask me how I know.

The wing halves were glued together then the slats and flaps were removed leaving not much wing to play with. I finally installed the wings as a working joined pair through the open end of the fuselage, it's a fiddle (technical term) and once in place they were fixed (a number of times) in the fully spread position.

Whilst in this area the wing seals were next. I fiddled the Paragon seals into place only to find the bottom edge to be too short when the wings are in the extended position so it was out with the Flightpath etched parts. It would have been great if either or both fitted Revell's gaping hole but by now I was used to doing the same job three or four times and with a degree of resignation reached for the sharp tools to enlarge the wing sweep holes. Once installed the etched parts were okay but resembled a comb so I painted some Tamiya tape Medium Sea Grey and glued it over the etched parts - result.

I had sold the original F.2 and Flightpath F.3 set to cover some of the cost of this project and was now regretting not keeping it and making an under-sized F.3.

I announced casually that progress was being made and that the dining room table would soon be free as work was to begin on the front of the plane. My wife remarked that it would only induce more grumbling, sanding and swearing. She's marvellous at gauging blood loss from a distance by the tone of voice and words used, but I digress. No sooner had work begun than it stopped. The Revell cockpit is shallow and didn't look that great. I looked at the various alternatives (who am I kidding, there's only one, by Avionix) decided I wasn't paying silly money and promptly bought the Aires GR.1 cockpit, and whilst waiting for the post to arrive (remember the snow) I began thinking about arming the plane. I made Revell's AIM-9s and pylons, put a bit of micro-strip on the rails and was going to leave it at that but that leaves you two ALARMS or AIM-9s and four Skyflash short. Reasoning that replacements wouldn't match Revell's and that when you're in this deep a bit more doesn't matter I bought the Flightpath F4 Sparrow set and a couple of their AIM-9s. By now the cockpit set had arrived and I needed to sort that out before any serious work on the fuselage could progress.

Dry fitting and overlaying the front extensions and underbelly panel revealed where to cut Revell's parts and fearing a repetition of the work at the rear, I bit the bullet, made the cuts and it was a quantum improvement on the tail job.

F.3s have had a number of changes to the nav's instruments over the years and I've images for three differing arrangements. I used parts from Aires' GR.1 set. A couple of cuts with a razor saw removed the centre screen, the three monitors were removed, cleaned up, reattached and a few pieces of lead wire produced what I considered an acceptable result.

I had to cut some of the front resin floor of the cockpit tub away and reduce the height of the nose wheel bay to get it all to fit through the open rear of the front fuselage, but it went well and once set the front and rear sections were brought together with superglue. The filler was awakened from its slumber



and used mostly on the spine and underside joins. Again using a straight edge helps no end to keep things trued up. The radome sub-assembly was attached and it was beginning to take shape - a large shape at that!

Once the fuselage was sanded, reprimed and rescribed (I hate rescribing, I may have mentioned it) it was time to start on the armament and fuel tanks. These were a straightforward job painted, decalced and rapidly concluded.

I had been thinking about the engine intakes for a while and after painting and dry-fitting realised that they aren't too good internally, but by now the thought of installing trunking didn't hold much attrac-

tion so it was out with the kitchen foil and masking tape to make some intake covers. The hooks were made with pieces of fuse wire, and once the intakes were glued to the fuselage the leading edge extensions were attached and filled and sanded.

After a good rub down with wet and dry it was out with the primer, and I

realised that there are no fittings for the rear Skyflash missiles. A bit of butchery to a couple of unused MER rails and micro-strip produced an acceptable result and it was back to the paint. The hot end got a few doses of Alclad shades mixed and layered, which brings us to the decals. The Revell stencils had to be cut out very close to each image as a test one had produced a brown stain that could not be removed with anything wet I have, and I wasn't going to risk sanding the paint so the stain was touched out with a 000 brush. The Heritage walkways come in long lines and must be cut to length, but they went on first time without drama. The plane I wanted to make - ZE764 - is not catered for on any decal sheet I could locate but I located most of what I wanted on Xtradecal sheet #32001. It wasn't until I tried to locate yellow letters and numbers for the tail that the problems really began, but fortunately I found some really old numbers on a 1/48 Microscale B-17 sheet I've had for thirty years. The DH and ZE had to be painted, but next time I'll print my own on the laptop (next time!!!). The eagles and squadron bars came from the Xtradecal sheet; the eagles had to have a corresponding area painted Barley Grey on the fin.

The Paragon flaps came next - no problems, just painted, decalced and attached but the F.3 wasn't fin-



ished with me yet; I'd used Flightpath's double metal AIM-9 pylons with the Hindenburghers attached as a sub-assembly because they're easier to get at off the plane, but when installing them they fouled the flaps. Muttering and grumbling ensued until adjustments were made, the plane inverted, and the complete assemblies super-glued and left overnight to set.

I installed the Flightpath nose leg and initially their metal wheels and tyres but the plane just didn't sit right. I kept their nose leg, modified by inserting a length of brass wire into the top of the leg and into a hole drilled into the roof of the wheel bay, but mixed and matched Revell's wheels to arrive at a compromise. In doing so I broke both main wheel axles so the legs were drilled and the broken plastic axles replaced with brass wire.

Once varnished and weathered with MIG's grey wash and water-colour paints the canopy was tackled (twice) and finished with Flightpath parts. Revell's nav canopy framing is wrong so that was corrected. The detonation cord is moulded into the canopy. I thought about sanding it off for a milli-sec and could easily have done so because I found out that if you use superglue accelerator and it runs, that it cuts through the layers of Klear you've dipped your canopy in and creates white marks you can't remove unless it's all sanded off - redipping in Klear doesn't work.



Stripping the canopy in Fairy power spray also removes all the paint, etched brass and wire installed. Once sanded with Micro-mesh and repolished and redipped in Klear, I was going to use Heritage's canopy detonator decals but they don't match the moulded lines. The canopy was finally completed and that pretty much finished the project.

After twenty-five years and four months I finally had a 1/32 Tornado F.3 which I'm fairly happy with.

I made the entry ladder using plastic card, wire and Flight-

path's footplates (sorry chaps, the laminated etched ladder sides don't work for me) and painted a concrete base. Time now to reflect.

Some may think this has been a project to see how much aftermarket you can throw into a plastic kit, and yes there's been a good bit but built up gradually over the years, but I didn't pay silly money for the parts – the Paragon flaps were bought when new (now £50 on eBay!) the Flightpath GR.1/GR.4 set was bought years ago, and the GR.1 box has a £15 label on the box. I sold my original F.2 and Flightpath set, and admittedly the Aires sets were an additional cost but well worth it. You could still get a decent result from the conversion and with wings swept you don't need flaps etc., it's down to how far you want to go.

If you think I've been hard on Heritage's conversion I think with the cottage industry standard as it currently is, that the quality of some parts could be better, and if you think I'm a shake-and-baker who gripes about sanding a kit you're wrong; I don't enter competitions or attend a club, I'm a fully paid-up kit basher, I still make vac-

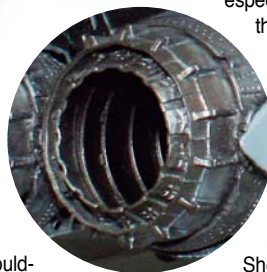
forms and resin kits but think that if this build makes someone think 'I'd like one of those' it's only fair that they appreciate they'll need some good old fashioned, basic modelling skills as it's not what a modern builder raised on Tamiya kits will be used too. I'm not going to use the hackneyed bleat 'but it is a 1/32 F.3' to justify the price. Make what you want, just want what you make, stick with it and you'll be fine.

References have played a key part in this build, especially the details, and there aren't really that many refs for the F.3. I relied on Ian Black's Tornado, Verlinden's Lock On 12 Tornado GR.1 book, John Dibbs' Defenders of the Realm and Aeroguide 21 Tornado ADV.

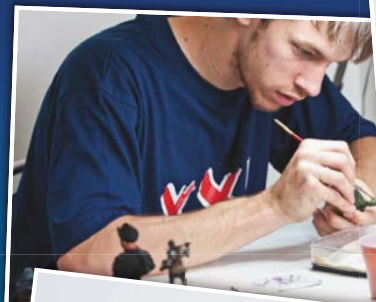
So apart from periodic mumbling emanating from the dining room my wife's had a pretty quiet few months and she's got the dining room back (for now).

She's bought me a Wingnut F.E.2 because if I get bored power tools and DIY (don't involve yourself) usually equate to a four-hour wait in the A&E department so on that basis everyone is happy!

The varnish is still drying, it's about now that someone usually announces a brand new kit of the vacform or conversion I've taken ages to build, so before I start making a 1/32 Tamiya F-4J resemble an FGR.2 does anyone have one up their sleeve? Bring it on..... **MA**



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IBN EDITORE

Fieseler Fi-156 Storch in Italian Service

By Maurizio Di Terlizzi

88 pp., 21 x 28,5 cm

ISBN 9788875650650

€ 21,00

A monograph on the lesser known Fieseler Storch, an aircraft acquired by the Regia Aeronautica from the German Aviation industry during WWII.

Written by famous researcher and master-modeller Maurizio Di Terlizzi, the book is perfectly tailored for modelers as it also contains two model builds: the old ESCI kit in 1/48 scale and the new Tamiya kit in 1/48 scale.

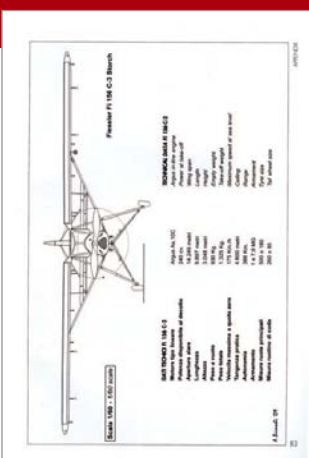
Starting from the history and development of the Fieseler, the author also analyzes its employment, including the rescue of Mussolini in September 1943, the Italian insignia, and the missions. Following a summary of camouflage & markings. Enriched with 67 color and 59 b/n photos, 4 color and 2 b/n profiles, scrap view drawings, scale plans and tables showing the Storch in Italian service.

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Kfir C1 number 745 of 101 Squadron in the mid-1970s. This aircraft is being used for weapons release trials. Note under-fuselage camera

KFIR Israel's Lion Cub

By Raymond Ball

The success of the Dassault Mirage in the Israeli Air Force during the late 1960s prompted the IAF to acquire more of this capable delta fighter jet. In particular they were interested in the new version of the Mirage, which had no nose radar, but had greater range and more ground attack capability, offering the multi-role solution the IAF was seeking. This aircraft became designated the Mirage 5J. Israel ordered fifty from Dassault, however an arms embargo was imposed by France and after Israeli Forces raided Beirut Airport in 1968, France cancelled the deal altogether. This left the IAF with a gap in their capability and the country with a concern about being over dependant on a foreign country for its key defence equipment.

During this time, Israel Aircraft Industries had gained a great deal of experience in producing aircraft parts and had been manufacturing the Fouga Magister. Jet engines were being manufactured by



Kfir C2 number 847 in the air superiority grey scheme adopted from the F-15 Eagles in IAF Service. The Kfir C2 was to complete nearly all its IAF service life in this grey scheme



A flight of four IAI Kfir C1s of 109 'Valley' Squadron over the coast of northern Israel in 1977. The aircraft are painted in the desert camouflage scheme and still retain the yellow triangles adopted during the 1973 Yom Kippur War, to help differentiate IAF delta winged aircraft from the Mirages flown by Arab Air Forces. These Kfir C1s were former 101 Squadron aircraft and were all rotated back to IAI for upgrading to Kfir C1 Plus standard

Bet-Shemesh for the Fouga and they also did the overhaul work on the Mirage's SNECMA Atar engines. In Switzerland, the firm of Sulzer Brothers was involved the production of Mirage aircraft and its advanced Atar 9C engine for the Swiss Air Force. Could IAI and Bet Shemesh do the same in Israel? One of their employees, an engineer called Alfred Frauenknecht, supplied the Israelis with the Blue-Prints of the engine. He was later arrested and imprisoned for these actions. The Israelis put this information to good use and started work on a local Mirage 5. The resultant version of the Mirage was given the name 'Nesher' (Eagle) and it made its first flight on 8 January 1971. Altogether, IAI produced fifty one single seat Nesher As and ten two-seat Nesher Bs for the IAF.

The entry of the McDonnell Douglas F-4E Phantom into the IAF brought with it new avionics and the powerful General Electric J79 engine. From experience gained from production of the Nesher, IAI embarked on a new project developing an air-



Kfir C2 number 853 of 149 'Smashing Parrots' Squadron. Some Kfir C2s going through major servicing during the late 1980s were also painted in the later F-16 style camouflage scheme

craft with greater capabilities than the Nesher and with greater power by installing the F4 Phantom's J-79 Turbojet in place of the Atar powerplant. The first aircraft converted was given the designation Ra'am and showed that the conversion was not a simple task. The J79 was shorter and heavier than the Atar with different air intake demands and a need for more cooling vents. However trials proved the concept would work and this new aircraft was to develop into the Kfir (Lion Cub). On 14 April 1975 the first Kfir C1, serial 724, was handed over to the IAF.

The first Squadron to receive Kfirs was 101 Squadron based at Hatzor and commanded by Lt Col Herzl Bodinger, (Later Commander of the IAF 1992 -1996). Prior to converting to the Kfir, the Squadron relinquished their Mirage IIIs and Nesher to 117 'First Jet' Squadron at Ramat David.

Although the J-79 afforded the Kfir greater power, the resultant changes in the airframe to accommodate the engine and the additional cooling intakes increased drag and weight. To its new pilots the aircraft was less manoeuvrable, with a lower performance than the aircraft they had just relinquished, which left them feeling disappointed. However, the Kfir was specified by the IAF to perform air to ground tasks, which after the recent Yom Kippur War in 1973, was seen to be the priority. This meant taking on a new role as the Squadron had been specialising in the interception and photo-reconnaissance roles, whilst operating the Mirage and Nesher.

As more Kfir C1s rolled off the production line, in June 1976 113 'Hornet' Squadron, also at Hatzor, relinquished their Nesher and converted to the Kfir. However, its reputation as a poor performer continued, not helped by 101 Squadron losing two aircraft in accidents.

The Kfir C1 retained the standard desert camouflage scheme of the Mirage and Nesher, with an uppersurface disruptive pattern of Tan FS 30219 and Light Green FS 34227 over Sand FS 33531.

The undersurface was painted light Blue FS 35662. and the aircraft still carried black bordered, yellow triangles on the wings and tail to aid identification of these IAF delta wing aircraft over Mirages operated by Arab Air Forces.

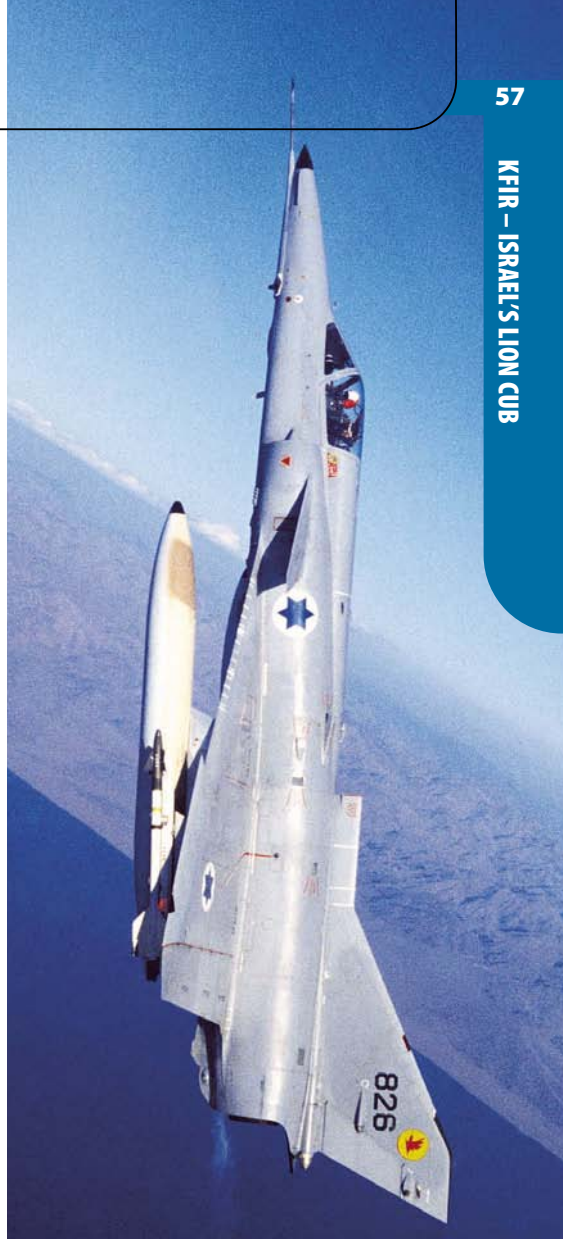
Israeli Aircraft Industries listened to the pilots of 101 and 113 'Hornet' Squadrons and began an improvement programme, strengthening the airframe and improving its aerodynamics and avionics to produce a new version. Externally, the main difference was the addition of canards just behind the air intakes, a wing leading edge increase with a 'dog-tooth' in place of the 'notch' and small strakes on the sides of the nose. These changes resulted in improved handling, enhanced manoeuvrability and better weapons delivery.

This new version, the Kfir C2 entered service in May 1977 with 113 'Hornet' Squadron, which relinquished its earlier Kfirs, back to IAI. Subsequently a third Kfir Squadron, 109 'Valley' Squadron at Ramat David, received eleven Kfirs from IAI on 28 July 1977. These Kfirs were C1 'plus' versions, having been modified by IAI to near Kfir C2 standard, but carrying smaller canards, known as 'Fences' (in Hebrew 'Gderot'). Gradually, production of the Kfir C2 increased to enable 101 Squadron and 109 Squadron to replace their Kfir C1s and equip two further Squadrons, 144 'Guards of the Arava' Squadron on 1 December 1978, and 149 'Smashing Parrots' Squadron in November 1980. The 'Valley' Squadron did not receive its Kfir C2s until 17 September 1979.

There was also a change in the Kfir camouflage scheme as the C2 was introduced. The Compass Grey Scheme of the F-15 Eagle, FS 36320 and FS 36375, was adopted as standard for the Kfir C2s. The first all Grey Kfir C2 to be painted, serial number 882, was given the wing and tail yellow triangles with black border markings, but these were then deemed unnecessary and discontinued. Only Kfir 882 was to be painted with the triangles.



16. Kfir C7 number 566 of 144 Squadron, landing at Ovda Air Base in southern Israel after a training mission



Kfir in its element. IAI Kfir C2, number 826 of 144 'Guards of the Arava' Squadron, on a training mission over southern Israel. Note the wing mounted 1300lt fuel tanks are still in the early desert camouflage colours, whilst the aircraft is in the air superiority Grey scheme

Kfir C1s were allocated serial numbers in the 700s range. Kfir C2s were numbered in the 800s with some having 900 serial numbers.

The Kfir gradually took its place in the Israeli Air Force Order of Battle, with 101 Squadron undertaking Combat Air Patrols in 1976. The following year, aircraft from the existing three Kfir Squadrons, participated in ground attack strikes against targets in Lebanon.

On 27 June 1979, the IAF launched a strike against hostile targets in South Lebanon. The attacking force consisted of F-4E Phantoms, A-4N Skyhawks and Kfirs which were also armed with Shafir air to air Missiles. As the Phantoms pulled off target, there was an alert from the covering E-2C Hawkeye, (Called 'Dayas' in the IAF, – Hebrew for Kite) about enemy aircraft approaching from the East.

The Phantoms immediately, flew a protective cordon around the Skyhawks as the Kfirs turned to engage the threat. Above them, F-15As called in from their Combat Air Patrol (CAP), also dived into the fray. Within minutes, the sky was a confusing melee of aircraft and missiles as eight Syrian MiG 21s turned and twisted for position with the Israelis. The fight moved through the altitudes, high, low and high again, then as quickly as it started, the sky is



Two Kfir C7s of 144 'Guards of the Arava' fly over the hills of northern Israel. They are armed with Python 3 missiles and carry a centreline fuel tank

clear and in the distance, MiGs could be seen making an escape, but not before five of their number lay smashed on the Lebanese countryside. The whole encounter had lasted less than forty five seconds and the subsequent analysis showed the F-15s had downed four of the MiGs, with the fifth being downed by a Kfir. Both types had gained their first kills.

The Kfir was number 874 flown by Captain Shai Eshel of 101 Squadron. He was one of a pair of Kfirs on Air Defence duties called into the action. Turning into the MiGs, Captain Eshel caught a MiG-21 breaking into the dogfight and fired a Python 3 missile, which scored a hit on the MiG's tail. At first, it was thought the MiG was only damaged, but as the Kfir closed with armed cannons, the MiG pilot was seen to eject and Captain Eshel broke away. This was to be the only air to air kill by a Kfir and this aircraft is now on display in the IAF Museum at Hatzerim.

For several years, Israel watched with growing concern the construction of a Nuclear Power Plant near Baghdad in Iraq. The Iraqi Government had

contracted with a French Company for the building of a Nuclear Reactor at Osirak and with that Reactor about to go 'live' Israel knew that such a Reactor could also be used to produce fissionable material for use in nuclear weapons. The Israeli Government gave the order for the Reactor to be destroyed.

On Sunday 7 June 1981 Prime Minister Menachem Begin approved the order and the strike took place with F-16s taking off from Etszion Air base in Sinai. One by one, the F-16s crossed into Iraq and as they neared the Euphrates moved into the attack position. At 5.35pm, the designated time on target, the aircraft struck. The first bombs blew a hole in the roof of the dome, through which the other bombs followed. Within minutes, the reactor was destroyed and with it Iraq's nuclear plans.

Following this air-raid President Reagan of the United States, protested to the Israeli Government and suspended deliveries of the F-16s outstanding from the Israeli order. To plug the gap in its air assets until the order was completed, the IAF brought some early (former 109 Valley Squadron),

Kfir C1+s (Kfir Gderot) out of storage and formed them into a new squadron, 254 'Midland' Squadron, under the command of leading ace Colonel Giora Even. This was a Reserve Squadron active only until 1984 when the US resumed deliveries of F-16s. Its Kfir C1+s would then be refurbished and Leased to the United States Navy as the IAI F-21A Kfir and operate in the 'Aggressor' role in air-combat training.

During 1982, the IAFs re-equipment plans were just about completed and it possessed an Air Force capable of meeting any threats in the region. Amongst its air combat strength were five Squadrons of Kfir C-2s and the temporary formed 'Midland' Squadron with Kfir C1+s. All were soon to be heavily engaged in combat operations.

In June 1982, Operation Peace for Galilee was launched with the objective of providing security once and for all, for Israel's Northern Towns, Kibbutzim and Settlements. Israeli Defence Forces under air cover from the IAF attacked enemy positions in South Lebanon. The Kfirs were predominantly used in the ground attack role, striking enemy positions



Kfir C2s of 149 'Smashing Parrots' Squadron, showing their distinctive tail markings. This was the last Squadron to operate the Kfir C2



Kfir C1 (Plus) of 109 Valley Squadron landing at its base at Ramat David. The Kfir C1 Plus was an upgraded C1 with improved aerodynamics, through the addition of nose strakes and winglets on the fuselage air intakes



Kfir C2 number 882 of 101 Squadron. When painted in the desert camouflage scheme, Kfirs also received the Yellow recognition triangles adopted by the IAF. With the change to the superiority grey scheme, the IAF decided that these were no longer necessary. However, Kfir 882 had already been painted, the only grey Kfir to have the yellow triangles



Kfir C2 number 451, which alongside Kfir C2 number 419 took over the photo-reconnaissance role from the earlier modified Mirage IIIs. Shown here having recently been delivered to the IAF Museum at Hatzerim, it still has the long 'Tsniut' (Discretion) rotating camera nose attached



Kfir C7 number 555 of 144 Squadron over the Yezre'el Valley in Northern Israel. The C7s were painted in the camouflage pattern and colours of the F-16s also in service with the IAF. On the nose below the cockpit in red is the name 'Shabtai' (Saturn)



Kfir C2 number 835 of 144 'Guards of the Arava' Squadron over southern Israel. The wing mounted fuel tanks are still in the early camouflage scheme, AIM-9D Sidewinder missiles are attached to the outer wing pylons

and strongholds in support of ground forces. On 9 June 1982, the Kfirs also participated in Operation Drugstore, the successful attack on the Syrian Missile Batteries in Lebanon's Beqaa Valley.

The Kfir C2

Wingspan: 26ft. 11ins 8.22m
Length: 51ft. 4ins 15.65m
Height: 14ft. 11ins 4.55m
Wing area: 374.6 sq.ft. 34.8sq.m
Armament: 2 x 30mm DEFA Cannons with 140 rounds per gun.
Bombs, Rockets and Missiles on seven hardpoint positions.

With its Mirage ancestry, the Kfir's design came out of an interceptor and always retained an air to air capability, though lacking the radar of the Mirage. In this role, the outer wing pylons were fitted with AIM-9 Sidewinder infra-red heat seeking missiles, or the Israeli Shafrir 2 and later, the Python 3 missiles.

External fuel tanks comprised the standard Mirage 500ltr 'supersonic' tanks and the larger 1300ltr tank with the 'H' tail fin to begin with, but later versions were more aerodynamic, being longer and thinner in diameter, with straight end fins. The tanks with the 'H' tail fin were usually seen on the fuselage centreline position, whereas it became more common to see the aerodynamic tank being carried on the wings.

The ground attack armaments for the Kfir C2 were restricted to 'Iron' bombs of various sizes and the Rockeye Cluster bomb as the aircraft was not configured to carry the smarter bombs coming into

the IAF inventory. It was usual for the bombs to be carried on the fuselage hardpoints, with a special centreline Multiple Ejector Rack (MER) called Napgach being fitted. Unlike the usual six rack MERS, this had only five racks with only two side by side bombs carried at the front. The lower front rack was not fitted as any bomb carried there would obstruct the nose undercarriage.

The IAF also had a few bomb-carrying versions of the 500ltr fuel tanks and these were known as Madnaps. When fitted to the inner pylon of each wing, each tank could hold two Mk82 500lbs bombs. The few Madnaps they had were used by 109 'Valley' Squadron and 149 'Smashing Parrots' Squadron.

With the increasing introduction of the F-16 into the IAF, with its new avionic technology and greater capability, in the early 1980s, Israel Aircraft Industries looked for ways of updating the Kfir to enhance its capability and maintain its effectiveness over the modern battlefield. The resulting aircraft was designated the Kfir C7 and all of these were given serial numbers in the 500s range.

At the heart of this enhancement was a significant improvement in avionics, with the installation of the new IAI/Elbit WDNS-391 (Weapons Delivery and Navigation System) and increased computer capacity. Linked to these systems was a Head-up display, replacing the earlier gun-sight and a CRT display screen as part of the increased digital instrumentation. A HOTAS (Hands on throttle and stick) system was also incorporated in the cockpit changes, to control this new equipment. Another cockpit change was the replacement of the earlier Martin Baker Mk 6 Ejection Seat, with the newer Martin Baker Mk 10. Ejection Seat. In addition to added safety features, comfort and reliability, the new seat is visually different, with the head-rest box top and no upper seat firing handles.

To go with the equipment upgrade, IAI also made improvements to the GE J-79 engine thrust, increasing take off power from 17,850lbs to 18,750lbs. A new fuel system was also fitted, which also permitted the C7 to be fully refuelled in a matter of minutes, improving turnaround time.

Externally, the Kfir C7 appeared to have a few



Three Kfir C2s fly over Nahalal Moshav agricultural settlement in Northern Israel. These aircraft are armed with the Raphael Python 3 Missile on the outer wing pylons

more small lumps and bumps to go with the enhanced self-protection systems, but the most obvious change was the use of the F-16 camouflage colours, in a new pattern for the Kfir. These colours are Sand FS 33531 with Brown FS 30219 and a lighter green of FS 34424 on the upper surfaces and Light Compass Grey FS 36375 on the under surfaces.

The Kfir C7

Wingspan: 26ft.11ins	8.22m
Length: 51ft. 4ins	15.65m
Height: 14ft. 11ins	4.55m
Wing area: 374.6 sq.ft.	34.8sq.m
Armament: 2 x 30mm DEFA Cannons with 140 rounds per gun.	
Bombs and smarter munitions, including laser guided Paveway	
Bombs. Load carrying capacity increased to nine hardpoint positions.	

The Kfir C7 could also carry all the same external fuel tanks as the Kfir C2.

All the Kfir C7s were allocated to 144 'Guards of the Arava' Squadron, which took delivery of its first Aircraft on 31 July 1983 and began phasing out its former Kfir C2s as the replacements arrived. After a course of operational conversion the Squadron was soon operational on the new type.

The Squadron's still operating the Kfir C2 soldiered on with the type for a few more years and as individual Kfirs were assessed as needing major servicing, Kfir C2s also began to appear with Martin Baker Mk10 ejection seats fitted and some Kfir C2s in 113 Hornet Squadron and 149 'Smashing Parrots' Squadron also received the new F-16 style camouflage colours. However they were not brought up to Kfir C7 standard and retained their 800 range serial numbers.

Straightaway, the Kfir C7 began to demonstrate the improved payload delivery, when they appeared with the AAS-35 Pave Penny Laser spot tracker fixed under the nose and with new, reshaped front fuselage pylons, holding the GBU-10 Mk 82 Laser guided bombs.

Reconnaissance Kfirs

Since the 1960s the IAF had been operating reconnaissance versions of the Dassault Mirage IIIC. Two Mirages were adapted to take a range of interchangeable nose cones extended and reshaped to house specialist camera equipment. It was not too difficult a task to do the same with the Kfir C2. On 4 July 1979, Kfir C2, serial number 892 was flown by



Kfir C2 number 855 of 101 Squadron in 1977. This was originally a Kfir C1 upgraded to C2 standard. It is shown in the desert camouflage scheme, but at its next major service, it was repainted in the air superiority grey scheme and allocated to 109 Valley Squadron

IAI test pilot Assaf Ben-Nun, with a reconnaissance nose attached to prove the concept would work. Shortly afterwards, two Kfir C2s, numbers 819 and 851 went through a full modification programme to replace the Mirages in this reconnaissance role. Israeli Air

Force reconnaissance aircraft used to have serial numbers beginning with 4 and these two aircraft became 419 and 451.

Although there were a variety of camera nose cones developed, the long nose Tznuit (Discretion) version was the preferred type for the Kfir. This nose housed the HR-308T high resolution, long range oblique camera. In the early version of this nose, the camera rotated within the nose. Later an improved version, Tznuit Meshopar, was developed where the camera was fixed within a rotating nose cone.

Two Seat Kfirs

As the Kfir C2 entered service, the pilots were still trained on the two seat Mirage IIIB and the two seat Nesher, but these older airframes were becoming unsuitable for the task and a sale of surplus Neshers to Argentina also included the trainer versions. The need for a trainer version of the Kfir was put to IAI who responded with the Kfir TC2. The basic

fuselage was lengthened and modified to take a second seat in tandem. The first TC2, serial number 303, made the first flight on 28 September 1980. Altogether ten were produced for the IAF all have serial numbers in the 300s.

Service end

The Kfir C2s continued to provide front line service until 1989, by which time all the Squadrons operating this version had been disbanded and reformed operating different aircraft. The last Kfir C2 Squadron was 149 'Smashing Parrots' Squadron, which also operated as the Kfir Operational Conversion Unit and disbanded in 1991.

The Kfir C7s of 144 'Guards of the Arava' Squadron, continued into the 1990s, participating in operations over Lebanon, before they too were retired in 1995 and the Squadron later reformed as an F-16 operator.

Altogether, IAI produced 212 Kfirs for the IAF between 1975 and 1986. However, this was not the end of Kfir operations. In 1982 Ecuador purchased ten Kfir C2s and three Kfir TC2s. The Colombian Air Force purchased 12 Kfir C2s and a single TC2 in 1989 and the Sri Lankan Air Force purchased five Kfir C2s and a single TC2 in 1996. **MA**



IAI Kfir C7 number 512, of 144 Squadron, looking pristine on the static display at Tel Nof Air Base in 1994. Note the special front fuselage pylon shaped to hold a laser guided bomb. All Kfir C7s had serial numbers in the 500s and only served with 144 'Guards of the Arava' Squadron



IAI Kfir TC2 number 301 of 144 Squadron. This is a two seat trainer version of the Kfir C2. It has the name 'Oscar' (in Hebrew) painted in red on the front fuselage

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Under the imposing shadow of a TSR.2 the 'British Bulldogs' showed their wares

Show Report Cosford Compendium

Andy Evans reports from the Shropshire Scale Modellers Show

After weeks of cold and snow, the sun finally came out to grace the skies above the Royal Air Force Museum for the 2013 Shropshire Scale Modellers Show in April. This event is one of the highlights of the modelling calendar, as not only do you get a top class, superbly organised show, but you also get free admission, which encompasses all the delights of the Museum, with traders and clubs intermingled with historic and contemporary aircraft and AFVs!

Once again this event did not disappoint, and the organizers were blessed with an impressive turnout

with enthusiasts and modellers, both young and old, enjoying all that this excellent event has to offer. The halls were filled with excited chatter and banter, and as ever the displays from clubs, societies and SIGs were imaginative and well thought out. The competition room was in a new area this year, in fact in one of the lecture theatres inside the 'Cold War Museum' section, which, despite its bright red 'comfy chairs' bore an uncanny resemblance to an underground bunker, complete with cast concrete walls!

If you have not yet visited the Cosford Show, then make sure you make a date for next year! **MA**



Cosford Reflections!



The Tornado SIG was out in force



Just how many Tornados can you count?



Club stands were plentiful



The Valkyrie is always an impressive sight!



The Quarter Scale Group had some super models on show



Also on the Quarter Scale stand - this equally impressive Beaufighter



Shooting Stars.....



On the Quarter Scale stand was this sublime Liberator.....



Spitfires all abound!



Our friends on the '580 Modellers' stand had some excellent aircraft on view with Lightnings, Falcons and plenty more



Phantoms, and more Lightnings!



In the 'Competition Area' was this impressive Rafale



A fine Mirage 2000N in the competition area



A British F-4J(UK) with all the trimmings



One of the high spots was this sublime 1:72 Tu-22 'Blinder'

WIN

Limited Edition Dambusters Prints worth £100!

133 Bomber Command Aircrew departed Royal Air Force Scampton in 19 brand new specially modified Avro Lancaster BIII Specials. Their mission, to fly across heavily defended occupied Europe in bright moonlight deep into the heart of the Ruhr Valley, in an attempt to destroy the mighty hydro-electric dams that powered the munitions and armament plants of the Nazi war machine.

History has named them 'The Dambusters'.

SAM Publications has been given a unique opportunity to offer one set of *The Dambusters* prints as competition prizes. Two runners up will receive prints of the *Coasting In* profile artwork. This competition appears in both *Scale Aviation Modeller International* and *Model Aircraft* magazine, and is available to all our readers. Just answer the question below:

Q. What is the English translation of the 617 Squadron motto 'Après moi le Deluge'?

Answers on a postcard please to:

Dambusters Print Competition, SAM Publications, Media House, 21 Kingsway, Bedford, MK42 9BJ

Competition Rules

Employees/volunteers working for SAM Publications and associated companies or their families are not permitted to enter. Entries are limited to one per person/household. No correspondence will be entered into. The judges' decision is final. All entries must reach Media House by 21st June 2013, when the prize draw will take place.



'THE DAMBUSTERS'

A Special Limited Edition set of 70 has been produced in conjunction with the RAF and Design Phoenix for the 70th Anniversary commemoration at RAF Scampton and is being sold in aid of the Bomber Command Memorial at Green Park. Each Set is priced at £100.00 and comes with a special commemoration booklet.



'COASTING IN'

A Special Limited Edition of 700 has been produced in conjunction with the RAF and Design Phoenix for the 70th Anniversary commemoration at RAF Scampton and is also being sold in aid of the Bomber Command Memorial. Each print is priced at £30.00 and comes with a special commemoration side profile print. Available from www.battleprints.com



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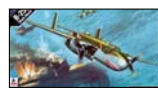


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Academy #12441 1/72 North-American P-51C Mustang

Academy #12504 1/72 Grumman F-14A Tomcat 'VF-1 Wolfpack'

Academy #12509 1/72 Lockheed SR-71A Blackbird 'History'

Academy #12605 1/144 McDonnell F-4E Phantom II

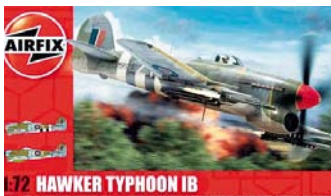


Accurate Miniatures #0013 1/48 P-51C Mustang Bendix Racer

Accurate Miniatures #0411 1/72 F-4J Phantom II (ex Monogram)

Accurate Miniatures #3410 1/48 Mustang Mk IA

Accurate Miniatures #3413 1/48 Grumman F3F-1 Navy Biplane Fighter



Airfix #02041 1/72 Hawker Typhoon Mk Ib

Airfix #04037 1/72 Mikoyan MiG-29A

Airfix #07005 1/72 Douglas C-47 Skytrain

Airfix #09007 1/72 Avro Lancaster 'Dambuster'



AZ Model #74008 1/72 de Havilland D.H.82 Tiger Moth. Decals RAAF

AZ Model #74009 1/72 D.H.82 Tiger Moth. Decals Finland, Sweden and Norway

AZ Model #74015 1/72 D.H.82 Tiger Moth. Decals RAF and Royal Navy

AZ Model #74022 1/72 de Havilland D.H.82 Tiger Moth. Decals Spain



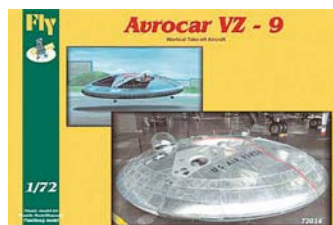
Dekno #0900 1/72 Howard DGA-6 Mr Mulligan



Dragon #4637 1/144 Douglas X-3 Stiletto



Eduard #8281 1/48 Supermarine Spitfire Mk IXc late version



Fly #72011 1/72 Avia BH-21 (Czechoslovak Fighter & Trainer)

Fly #72014 1/72 Avrocar VZ-9

Fly #72020 1/72 Avia BH-21 J/skis



From-Azur #019 1/72 Vickers Vincent



F-rsin Plastic #4039 1/144 Bristol Britannia - RAF

F-rsin Plastic #4040 1/144 Bristol Britannia - Monarch

F-rsin Plastic #4041 1/144 Bristol Britannia - El Al

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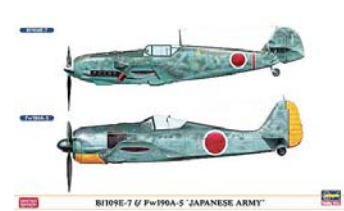
F-rsin Plastic #4043 1/144 Bristol Britannia - British Eagle



Great Wall Hobby #1001 1/144 Avro Vulcan B Mk 2

Great Wall Hobby #4809 1/48 Douglas TBD-1 Devastator VT-6 at Wake Island

Great Wall Hobby #4810 1/48 Northrop P-61A Black Widow 'Last Shoot Down'



Hasegawa #02014 1/72 Bf 109E-7 & Focke Wulf Fw 190A-5 'Japanese Army'

Hasegawa #02015 1/72 McDonnell F-15C Eagle '57TH Fighter Interceptor Squadron'

Hasegawa #02016 1/72 Junkers Ju 88S-1/3 KG66

Hasegawa #02017 1/72 BAe Sea Harrier FRS.1 899 & 809 Sqn

Hasegawa #02018 1/72 North-American F-86D Sabre Dog JASDF combo

Hasegawa #02019 1/72 Mitsubishi A6M5a Zero 'Fighter Bomber'

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Hasegawa #02022 1/72 Grumman F-14A Tomcat VF-211 Fighting Checkmates

Hasegawa #02023 1/72 McDonnell F-4S Phantom II 'VF-301 Devil's Disciples'

Hasegawa #07320 1/48 Focke-Wulf Fw 190A-5/U12 with Gun Pack

Hasegawa #07321 1/48 Supermarine Spitfire Mk VII/Mk VIII 'Pointed Wing'

Hasegawa #07322 1/48 Vought A-7E Corsair II 'VA-113 Stingers Bicentennial'

Hasegawa #07323 1/48 Junkers Ju 87D-3N Stuka 'NSGr.2'

Hasegawa #07324 1/48 Bell P-400 Airacobra 'Shark Teeth'

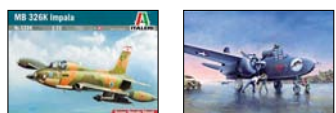
Hasegawa #07325 1/48 Nakajima A6M2-N Type 2 Seaplane

Hasegawa #JT079 1/48 Supermarine Spitfire Mk IXC

Hasegawa #K015 1/72 Lockheed P-3C Orion

Hasegawa #PT001 1/48 Sikorsky SH-3H Sea King USN

HPH Models #32005R 1/32 L-29A Delfin



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Italeri #1334 1/72 Macchi MB 326K Impala
Italeri #2724 1/48 Douglas P-70A



Kora #72149 1/72 Hawker Hartbeeste (Silver Wings)
Kora #72150 1/72 Hawker Hartbeeste (East African Campaign)

Kora #72151 1/72 Hawker Hart Trainer (Egyptian Service)

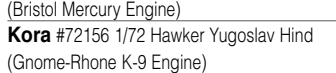
Kora #72152 1/72 Hawker Hart Trainer (Commonwealth Service)

Kora #72153 1/72 Hawker Latvian Hind (Bristol Mercury Engine)

Kora #72154 1/72 Hawker Latvian Hind (Soviet Service)

Kora #72155 1/72 Hawker Persian Hind (Bristol Mercury Engine)

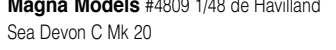
Kora #72156 1/72 Hawker Yugoslav Hind (Gnome-Rhone K-9 Engine)



Magna Models #4809 1/48 de Havilland Sea Devon C Mk 20



Spin Models #4810 1/48 Kondor D.VI



Spin Models #7203 1/72 Grushin S-Tandem



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Mark I Models #14401 1/144 Mikoyan MiG-19S Farmer C 'Warsaw Pact'

Mark I Models #14402 1/144 Shenyang J-6/F-6 Farmer C

Mark I Models #14405HT 1/144 Mikoyan MiG-19PM Farmer D

Mark I Models #14406 1/144 Aero L-39ZO/ZA/ART Albatros



PJ Productions #721028 1/72 Dassault Mirage IIIR/IIIRZ/5F



Revell #04848 1/72 Northrop F-89D/F-89J Scorpion



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S & M Models #44-15 1/144 Vickers Windsor



Special Hobby #72228 1/72 Douglas B-18A Bolo 'At War'

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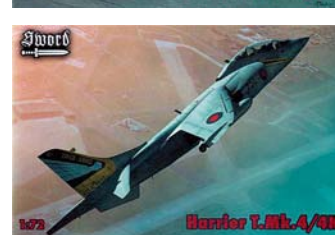
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Sword #72054 1/72 Lockheed F-94B Starfire

Sword #72058 1/72 Supermarine Seafire Mk XVII

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Sword #72062 1/BAe Harrier T Mk 4 / Mk 4N

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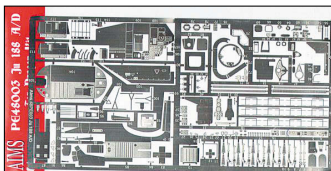
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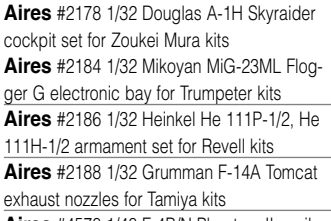
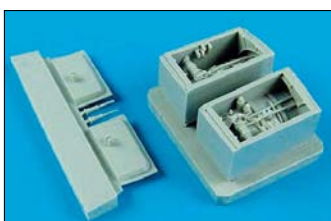
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Sword #72072 1/72 Lockheed T2V-1 Seastar

Sword #72072 1/72 Lockheed T2V-1 Seastar



Aires #4803 1/48 Junkers Ju 188A/Ju 188D for Dragon kits



Aires #2178 1/32 Douglas A-1H Skyraider cockpit set for Zoukei Mura kits

Aires #2184 1/32 Mikoyan MiG-23ML Flogger G electronic bay for Trumpeter kits

Aires #2186 1/32 Heinkel He 111P-1/2, He 111H-1/2 armament set for Revell kits

Aires #2188 1/32 Grumman F-14A Tomcat exhaust nozzles for Tamiya kits

Aires #4578 1/48 F-4B/N Phantom II auxiliary air intake for Academy kits

Aires #4579 1/48 McDonnell F-4B/N Phantom II wheel bays for Academy kits

Aires #4581 1/48 Martin-Baker Mk 10Q

ejection seat Mirage 2000C

Aires #4582 1/48 Mikoyan MiG-23ML Flogger G cockpit set for Trumpeter kits

Aires #4583 1/48 McDonnell F-4B Phantom II electronic bay for Academy kits

Aires #4584 1/48 North-American T-28 Trojan wheel bay for Roden kits

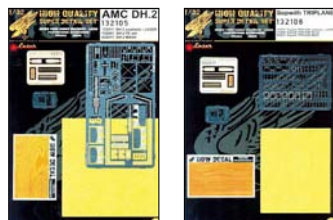
Aires #4585 1/48 Messerschmitt Me 410B-2/U4 cockpit set for Meng Models kits

Aires #4586 1/48 Messerschmitt Bf 110D-3 cockpit set for Cyber-Hobby kits

Aires #7295 1/72 F-100D Super Sabre cockpit set for Trumpeter kits



Detail Model #7035 1/72 Consolidated B-24 Liberator bomb bay



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HGW #132106 1/32 Sopwith Triplane details for Wingnut Wings kits

HGW #132107 1/32 Fokker E.II / E.III details for Wingnut Wings kits

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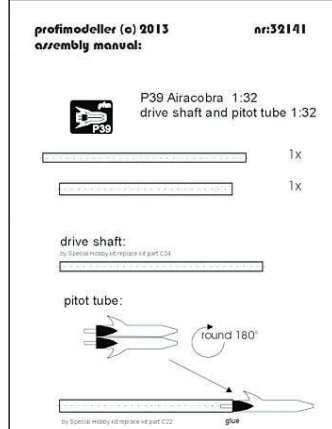
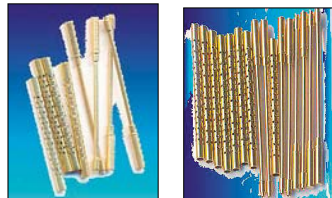
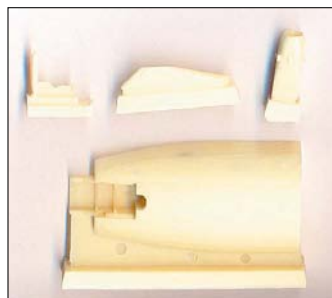
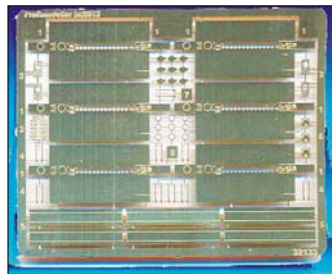
HGW #132519 1/32 Hannover Cl.III laser seatbelts for Wingnut Wings kits



Kuivalainen #48014 1/48 MiG-21F-13 Finnish AF cockpit for Trumpeter kits

Pavla Models #C72116 1/72 de Havilland Vampire T.11 cockpit for Airfix kits

Pavla Models #S72079 1/72 MB Mk 3B for Vampire T.11 for Airfix kits



Profimodeller #32133P 1/32 Mil Mi-24 Side flare dispenser for Trumpeter

Profimodeller #32134P 1/32 MiG-15T target tug, conversion set for Trumpeter kits

Profimodeller #32137P 1/32 Aero L-39ZA Albatros pitot tube for HPH kits

Profimodeller #32138P 1/32 P-38L-5-L0 Lightning gun barrels for Trumpeter kits

Profimodeller #32139P 1/32 Bf 109E-4 gun barrels set for Trumpeter kits

Profimodeller #32140P 1/32 P-51D Mustang gun barrels for Tamiya kits

Profimodeller #32141P 1/32 P-39 pitot tube and drive shaft for Special Hobby kits

Profimodeller #32142P 1/32 P-39 external wing container barrels for Special Hobby kits

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Profimodeller #32144P 1/32 A6M2/A6M5 wing gun barrels for Tamiya kits

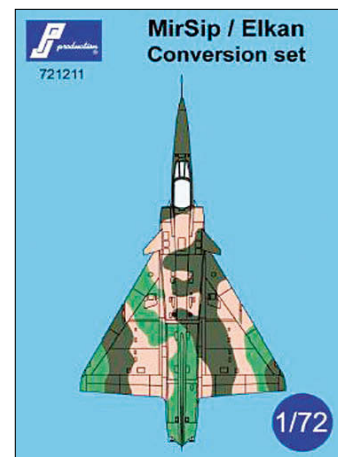
Profimodeller #32145P 1/32 A6M2b nose gun barrels for Tamiya kits

Profimodeller #32146P 1/32 Republic P-47D Thunderbolt pitot tube for Trumpeter kits

Profimodeller #32147P 1/32 P-47D gun barrels smooth type for Trumpeter kits

Profimodeller #32148P 1/32 P-47D gun barrels perforated type for Trumpeter kits

Profimodeller #32149P 1/32 He 162A gun barrels for Best Choice and Revell kits



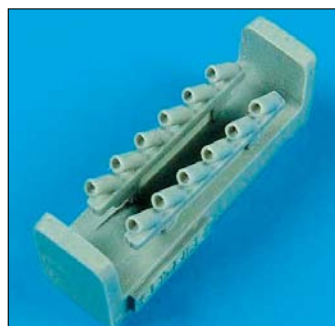
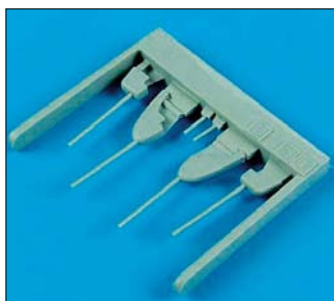
PJ Productions #721211 1/72 MirSip/Elkan conversion set for Mirage 5BA

PJ Productions #721212 1/72 Mirage IIIRD Recon nose for Mirage IIIR

Aerobonus by Aires #480057 1/48 US Navy multiple ejector rack MER-7 A/A37B-6 Aerobonus by Aires #480058 1/48 FAB-100 Soviet WW II bombs

Aerobonus by Aires #480059 1/48 Mk 46 US Navy torpedoes





Quickboost #32140 1/32 Vought F-8E/F-8J Crusader ejection seat

Quickboost #32141 1/32 Ju 87B 'Stuka' ammo drums for Trumpeter kits

Quickboost #48500 1/48 Republic F-105D Thunderchief ejection seat

Quickboost #48501 1/48 Vought F-8E/F-8J Crusader ejection seat

Quickboost #48502 1/48 Ilyushin Il-2 Sturmovik gun barrels for Tamiya kits

Quickboost #48503 1/48 Mikoyan MiG-17 ejection seat

Quickboost #48504 1/48 Lockheed F-104C/J Starfighter ejection seat

Quickboost #48505 1/48 Ta 152C correct cowling for HobbyBoss kits

Quickboost #48506 1/48 MiG-23M/MiG-23MF gun barrels for Trumpeter kits

Quickboost #48507 1/48 MiG-21 ejection seat for Academy and Eduard kits

Quickboost #48508 1/48 S-2E/S-2F/S-2G Tracker air intakes for Italeri and Kinetic kits

Quickboost #48509 1/48 F-100D ejection seat with safety belts

Quickboost #48510 1/48 Hawker Hurricane Mk I propeller for Airfix kits

Quickboost #48511 1/48 North-American F-86F ejection seat

Quickboost #48512 1/48 Grumman S-2E/S-2F/S-2G Tracker engines for Kinetic kits

Quickboost #48513 1/48 T-28B/T-28D control lever and rudder pedals for Roden kits

Quickboost #48514 1/48 Tupolev Tu-2S/Tu-2U-2VS exhaust for Xuntong kits

Quickboost #48515 1/48 Sukhoi Su-7BKL air intakes for KP Models kits

Quickboost #48516 1/48 MiG-29A Fulcrum exhaust covers for Great Wall Hobby kits

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Quickboost #48518 1/48 Messerschmitt Me 410B-2/U4 gun barrels for Meng Model kits

Quickboost #48519 1/48 Messerschmitt Me 410A radio equipment for Meng Model kits

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Quickboost #72405 1/72 Grumman F6F Hellcat engine for Eduard kits

Quickboost #72406 1/72 Vought F-8E Crusader ejection seat

Quickboost #72407 1/72 Douglas A-4B Skyhawk gun barrels for Airfix kits

Quickboost #72408 1/72 BAe AV-8A Harrier conversion set for Esci and Italeri kits

Quickboost #72409 1/72 Lockheed F-104C Starfighter ejection seat

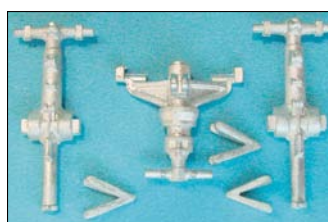
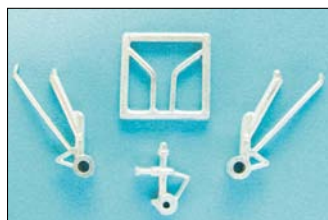
Quickboost #72410 1/72 MiG-29A ejection seat



RES-IM #4803 1/48 Yakovlev Yak-23 Control Surface for Bilek kits

RES-IM #7208 1/72 Mikoyan MiG-23 wheel cover for R.V.Models kits

RES-IM #7209 1/72 F/A-18E, F/A-18F, EA-18G Flap down set for Hasegawa kits



Scale Aircraft Conversions #14410
1/144 Vulcan B Mk 2 Landing Gear

Scale Aircraft Conversions #32072

1/32 Westland Lynx HAS.3/Mk 88A Landing Gear for Revell kits

Scale Aircraft Conversions #48218

1/48 Supermarine Attacker F.1 Landing Gear for Trumpeter kits

Scale Aircraft Conversions #72057

1/72 P-51D/F-51D Mustang IV Landing Gear

Scale Aircraft Conversions #72058

1/72 Bf 110 Landing Gear for Eduard kit

Scale Aircraft Conversions #72059

1/72 Sukhoi Su-33 Flanker D Landing Gear for Hasegawa kits

Scale Aircraft Conversions #72060 1/

T-50 PAK-FA Landing Gear for HobbyBoss kits

Scale Aircraft Conversions #72061

1/72 BAC TSR.2 Landing Gear for Airfix kits



Spin Models #C485 1/48 Nieuport 10 Triplane Conversion for Special Hobby kits



Two Mikes Resin #48030 1/48 Su-25 Intake and Exhaust Covers early for Monogram kits

Two Mikes Resin #48067 1/48 McDonnell-Douglas T-45 Goshawk seamless/corrected intakes for Kinetic kits

Two Mikes Resin #48068 1/48 McDonnell-Douglas T-45 Goshawk tailhook fairing for Kinetic kits

Two Mikes Resin #48069 1/48 Boeing F/E-18E / F/E-18F E/A-18G wingfolds for Hasegawa kits

Two Mikes Resin #48070 1/48 McDonnell-Douglas T-45 Goshawk tailhook fairing with ventral fin for Kinetic kits

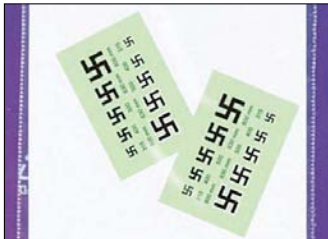
Two Mikes Resin #48071 1/48 BAe Hawk corrected vertical stabilizer

Two Mikes Resin #48073 1/48 McDonnell-Douglas T-45 Goshawk tailhook set for Kinetic kits



Aztec #4852 1/48 Sky Guardians Part 2

Aztec #7252 1/72 Sky Guardians Part 2



Mark 1 Guide #14420 1/144 RAF WWII 24

Dull Red letters

Mark 1 Guide #14421 1/144 Luftwaffe

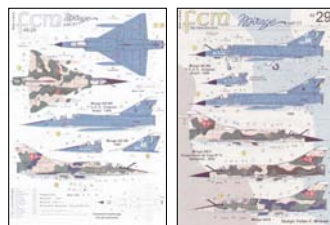
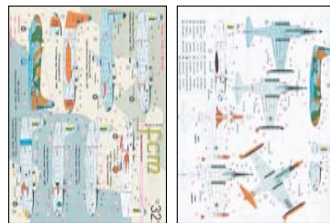
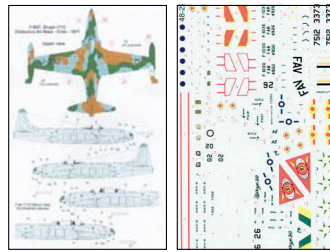
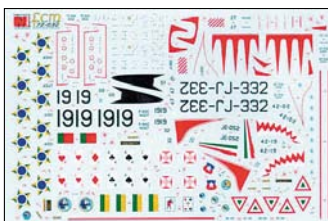
Crosses (Balkenkreuz) early type

Mark 1 Guide #14422 1/144 Luftwaffe

Swastikas

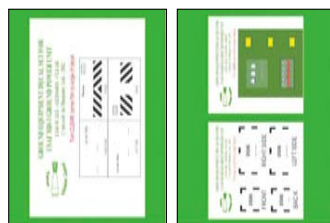
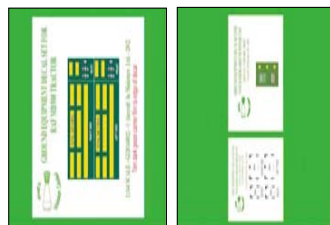
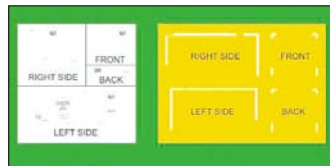


DP Casper #72010 1/72 Operation Left Hook, Ethiopia/Eritrea 1993



FCM #48029 1/48 Dassault Mirage III Pt 1

FCM #72032 1/72 South American Lockheed F-80/Lockheed T-33



AIM - Ground Equipment Decals #14401

1/144 USAF MD-3 Ground Power Unit

AIM - Ground Equipment Decals #14402

1/144 MD300 RAF tractor

AIM - Ground Equipment Decals #14403

1/144 Dash 86 USAF Ground Power Unit

AIM - Ground Equipment Decals #14404

1/144 USAF B450 Tractor

AIM - Ground Equipment Decals #14405

1/144 USAF Coleman MB-4 Tractor

AIM - Ground Equipment Decals #14406

1/144 USAF Coleman MB-4 Tractor

AIM - Ground Equipment Decals #48011

1/48 USAF MD-3 Ground Power Unit

AIM - Ground Equipment Decals #48012

1/48 MD300 RAF tractor

AIM - Ground Equipment Decals #48013

1/48 Dash 86 USAF Ground Power Unit

AIM - Ground Equipment Decals #48014

1/48 USAF B450 Tractor

AIM - Ground Equipment Decals #48015

1/48 USAF Coleman MB-4 Tractor

AIM - Ground Equipment Decals #48016

1/48 USAF Coleman MB-4 Tractor

AIM - Ground Equipment Decals #72011

1/72 USAF MD-3 Ground Power Unit

AIM - Ground Equipment Decals #72012

1/72 MD300 RAF tractor

AIM - Ground Equipment Decals #72013

1/72 Dash 86 USAF Ground Power Unit

AIM - Ground Equipment Decals #72014

1/72 USAF B450 Tractor

AIM - Ground Equipment Decals #72015

1/72 USAF Coleman MB-4 Tractor

AIM - Ground Equipment Decals #72016

1/72 USAF Coleman MB-4 Tractor

AIM - Ground Equipment Decals #72017

1/72 USAF Coleman MB-4 Tractor

AIM - Ground Equipment Decals #72018

1/72 USAF Coleman MB-4 Tractor

AIM - Ground Equipment Decals #72019

1/72 USAF Coleman MB-4 Tractor

AIM - Ground Equipment Decals #72020

1/72 USAF Coleman MB-4 Tractor

AIM - Ground Equipment Decals #72021

1/72 USAF Coleman MB-4 Tractor

AIM - Ground Equipment Decals #72022

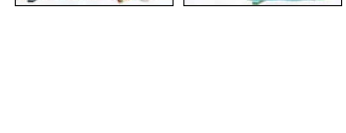
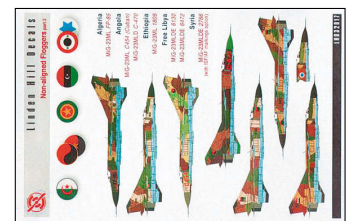
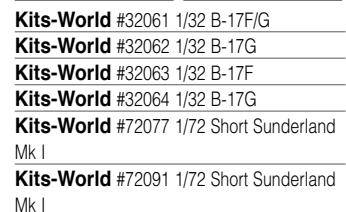
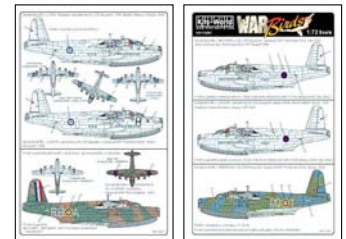
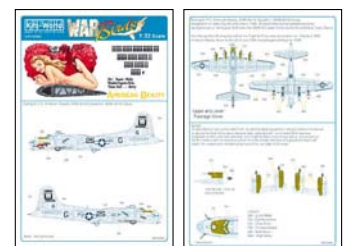
1/72 USAF Coleman MB-4 Tractor

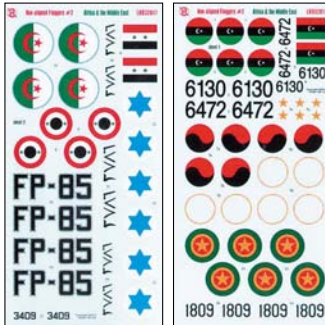
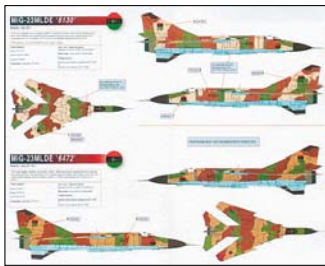
AIM - Ground Equipment Decals #72023

1/72 USAF Coleman MB-4 Tractor

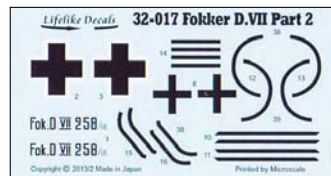
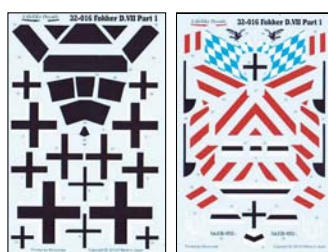
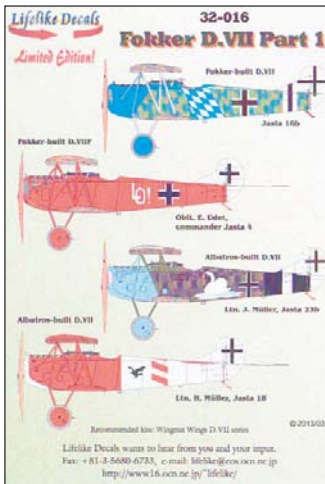
AIM - Ground Equipment Decals #72024

1/72 USAF Coleman MB-4 Tractor





Linden Hill #32017 1/32 Non-Aligned MiG-23ML/MiG-23MLDE Floggers part 2



Lifelike #32016 1/32 Fokker D.VII part 1

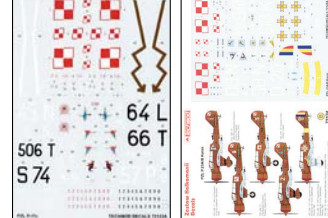
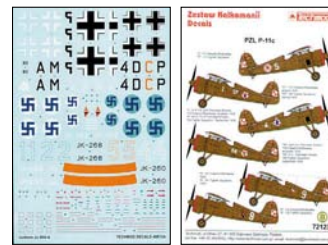
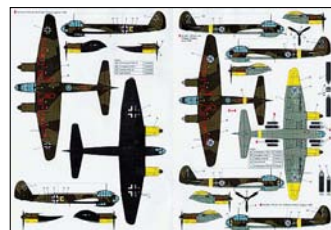
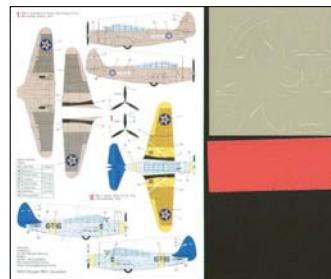
Lifelike #32017 1/32 Fokker D.VII part 2

Lifelike #72026 1/72 Kawasaki Ki-100 Part 1

Lifelike #72027 1/72 Nakajima Ki-84 Hayate Part 2

Twosix Silk #44186 1/144 British Airways Boeing 767-336/ER

Twosix Silk #44206 1/144 Inex Adria McDonnell Douglas DC-9s & MD-80s



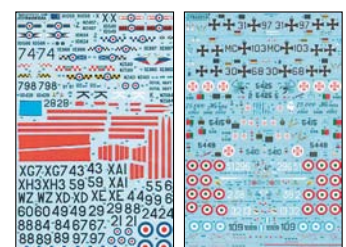
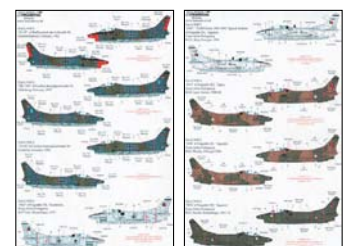
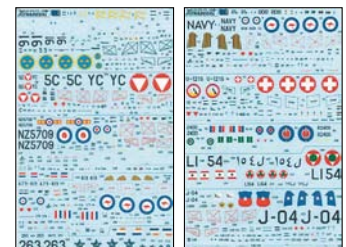
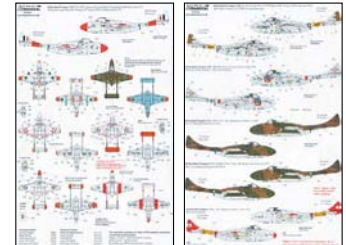
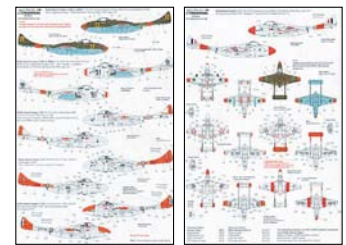
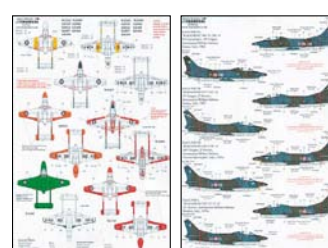
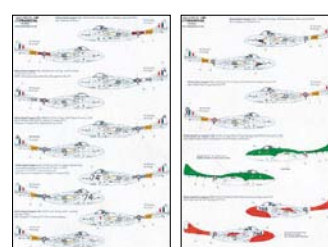
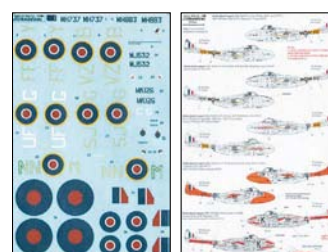
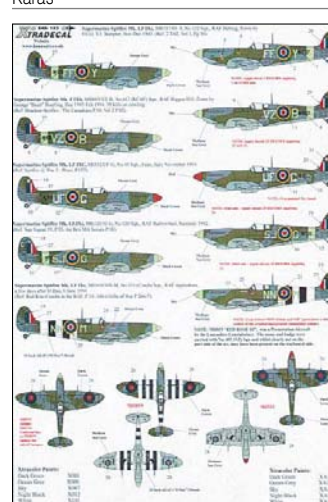
Techmod #48810 1/48 Douglas TBD-1 Devastator Pre War

Techmod #48813 1/48 Junkers Ju 88A-4

Techmod #72123 1/72 PZL P.11c

Techmod #72124 1/72 PZL P.23A/P.23B

Karas



Xtradecal #48123 1/48 Supermarine Spitfire F Mk IXc

Xtradecal #72172 1/72 de Havilland Vampire T.11 UK Part 1

Xtradecal #72173 1/72 de Havilland Vampire T.55 Overseas Operators Part 1

Xtradecal #72174 1/72 de Havilland Vampire T.55 Overseas Operators Part 2

Xtradecal #72175 1/72 Fiat G.91R/3

WORK BENCH



Technical Data

Scale: 1:48
Kit No: 12224
Type: Injection Moulded Plastic
Manufacturer: Academy
UK Importer: Pocketbond
USW Importer: MRC

The Day we caught the Big Fish

By Trevor Pask

The release of the 1/48 MiG-21 from Eduard during 2011 was eagerly awaited by many. When the kit appeared it deservedly received totally complimentary reviews, but many articles seemed to imply that the Eduard kit was filling a vacuum for modellers. It is true that good kits of this classic Soviet type have been fairly thin on the ground over the years, but some reviewers seem to have forgotten the Academy kit. This has been around since the early 1990s and while not as accomplished as the later Eduard offering, is still a good and affordable kit. Possibly to steal a little thunder – and some sales – from the Eduard kit, Academy reissued their MiG-21 in 2011 in a limited edition. This came complete with a small photo-etched fret, and Cartograf decals for the Polish aircraft painted up in spe-

cial swordfish markings for the forty-fifth anniversary of the type in Polish service. This swordfish scheme is especially attractive on a MiG-21 – an aircraft which spent the bulk of its service life as an anonymous camouflaged Cold War warrior.

The Academy kit is simple, well engineered, and presents absolutely no problems with respect to construction. The detail is a little basic in a few places, and slightly too heavy in others, but the photo-etched fret supplied in the limited edition kit helps in most of these areas. One area which needs a little more, however, is the cockpit. The MiG-21 had a small cockpit, which was dominated by the K36 ejector seat fitted to most of the late mark MF aircraft. The seat supplied in the kit is – like many seats supplied with otherwise good kits – too simplified to be convincing. Several aftermarket replace-

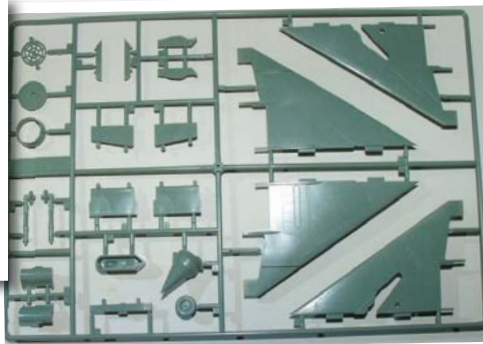
ments are available, and a Pavla generic resin example was used in this project. Carefully painted, it improves both the cockpit and the overall look of the model significantly.

Generally, the fit of parts is very good with only a little filler required around the nose and airbrake areas. Careful test fitting indicated that the wings would require none along the fuselage joints. This was important given the elaborate swordfish decals, which are composed of four very large, and a number of smaller elements. The design of the decals indicated that the swordfish images would be easier to apply if the wings were attached after the decals had been applied.

The building stage was generally unproblematic, and the simplicity of the original MiG-21 design is reflected in the kit. The main use of filler was along the main fuselage joint on the underside of the



The sprues of the Academy kit are neat and businesslike



The faintly 'industrial' surface detail of the original has been captured on the kit parts

model, and along the edges of the separate fuselage spine, which was not an exact fit. Smoothing down the relatively small amounts of filler inevitably ruins some of the finely engraved surface detail, and while most of the panel lines can be quite easily rescribed the rivet heads are harder to replace. For enthusiasts who have only been used to seeing western aircraft at close quarters, what is striking about the MiG-21 and other Soviet types from the Cold War period, is the heavily riveted surface. The MiG-21 was a tough aircraft with rivets being very apparent on the airframe. In 1/48 they would possibly not be noticeable, but some representation is necessary to remain faithful to the spirit of the sub-

ject. Fortunately, careful use of filler and some re-etching with a Trumpeter riveting scribing tool preserved the slightly industrial scale surface detail.

Towards the end of their careers, Polish MiG-21s wore neat two-tone grey air superiority colour schemes. Academy provides a standard service aircraft as an alternative – which perhaps defeats the object of paying more for a kit with the Cartograf sheet. The base colour for the swordfish aircraft, however, is an overall light grey. Humbrol 164 is a good match for the shade used, and two suitably thinned coats were airbrushed over the completed sub-assemblies of the model. Two coats of Johnson's Klear provided a hard gloss surface for the decals.

The Cartograf decals are beautifully printed, but some of the smaller more easily replaced images were used first to test their reaction to the surface of the model and decal setting solutions. The Polish national insignia on the wings provided the initial test. The images bedded down perfectly, and the use of Micro Sol drew the decals down into the recessed surface detail to create a painted-on effect.

The majority of the swordfish images are provided on two very large decals. It is possible to cut away the lower portion of the swordfish's mouth, and the tip of the nose, and apply these components separately. This is advis-



The decals were first tested out on the wings to gauge their characteristics

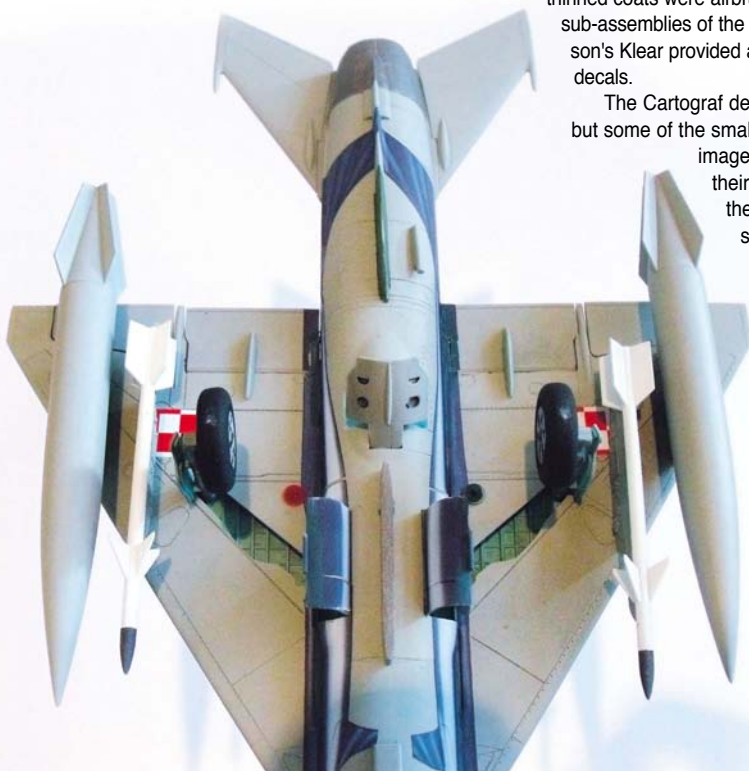


Academy have also issued a kit of the earlier PF version of the MiG-21. In order to share some generic sprues with the MF version, the fuselage has to be built up from separate nose and spine sections. This complicates the engineering of the kit a little

able as the decals would be very tricky to apply otherwise, and even in a simplified form, the main decal still required about ten minutes of very careful manoeuvring to fit. Part of the problem was that the decals adhered almost instantly when they first touched the surface of the model. The pieces are quite tough and can be handled carefully, but a high gloss surface, liberal amounts of Micro Set and a patient steady hand is essential for anyone attempting this project.

Given the design of the decals – with the aircraft's call number printed with the swordfish's nose – it is best to start with these pieces at the front of the aircraft and work back. The decals fitted very well and had obviously been scaled to fit the Academy kit. To minimise damage through subsequent handling the decals were applied over the course of a couple of days, working from front to back on one side of the model and then the other. When this process was complete, a few gaps of grey were apparent. These were small and confined to the wing root areas and portions of air scoops, which were a challenge too far for the decals. A piece of spare blue decal would have been useful to fill in these gaps, but a with some careful mixing of paint, a few minutes with an 00 brush can fill in the holes.

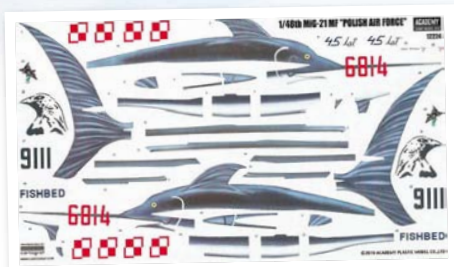
Once the decals were on, the fuselage and wings were joined and the surface of the model was sealed with a layer of Humbrol Matt Varnish. This was necessary to make the painstakingly applied



The fuselage prior to the lengthy decal application process. A coat of Johnson's Klear created the gloss finish necessary for all decals



Several decal application sessions were needed to apply the bulk of the swordfish image



The Academy sheet is printed by Cartograf

decals less likely to suffer damage as the model was finished. A few of the more obvious panel lines were drawn in, and the undercarriage was added. The photo-etched parts integrated perfectly with the plastic, and add a sense of delicacy and realism. The front nose probe was hard to assemble, requiring some careful work between a plastic part, a new turned brass component and some very fine photo-etched fins. The end result is well worth the effort.

The kit comes with a range of the stores typically carried by the later versions of the MiG-21. A basic design characteristic of the aircraft, which created serious problems later in its service life, was that space under the wings was very limited. This was a

result of the aircraft being originally designed in the late 1950s as a simple climb-to-height fighter. The fault was remedied in later multi-role versions of the aircraft by a greatly strengthened wing, but one feature of this necessitated the carriage of the external fuel tanks on the outboard pylons. This makes the aircraft look more aggressive and it was the option chosen for this model.

The completed model is visually stunning, and while the Eduard kit may very well appear in a special edition at some point with a decal option for this aircraft, the Academy model – especially in this guise – is well worth considering for someone who has a steady hand and enjoys the challenge of a

complex decal job. What is perhaps most amazing about the model is that it illustrates how the world can change rapidly and in completely unforeseen ways. Within the living memory of many readers, the MiG-21 was an 'enemy aircraft' sighted only via grainy photographs wearing brown, grey and sand coloured camouflage. The thought that some aircraft would eventually be operated by a NATO country and be painted up in such markings would have been unthinkable. That thought alone makes the subject and the model doubly attractive.

Highly recommended, but lay in plenty of decal softening solutions! **MA**



The swordfish aircraft is also an option on a decal sheet from Albatross



The virtually complete model. Some panel lines were drawn in with an HB pencil



Box art of the standard Academy version of the kit

The Pavla replacement cockpit set which is available for the Academy kit





UK 2013 Show Diary

Compiled by Geoff Cooper-Smith of 580 Modellers

June

Saturday 01st June

Scale Model Show 2013

Presented by IPMS Salisbury and the Salisbury Scale Model Club at Wyvern College Sports Hall, Church Road, Laverstock, Salisbury, SP1 1RE from 9.30am to 4.30pm. Admission is £3.00 adult, £1.50 child, £8.00 family with free parking, refreshments, demonstrations, a model competition, Tombola and free children's 'make and take'.

See: www.salisburymodelshow.co.uk, for further details.

Sunday 02nd June

Northern Model Show

Presented by IPMS Tyneside at Northumbria University, Domain (1st Floor), Student Union Building, 2 Sandyford Road, Newcastle, NE1 8SB from 10am to 4pm. Admission is £3.80 adults, £1.90 children & concessions with car parking, bar & restaurant and an open competition.

Contact: thenorthernmodelshow@hotmail.com, for further details.

Sunday 09th June

Modelmaking & Flying Day

At Stowe Maries Aerodrome, Hackmans Lane, Purleigh, Nr Maldon, Essex CM3 6RN from 10am to 4pm. Admission is £8 for one adult and one child, £4 per additional child. A day with a difference with modelmaking demonstrations, Q & A sessions, 'make & take', large-scale flying including helicopters and a radio controlled aircraft simulator.

Contact: Peter Trent on 07906 553680, for further details.

Sunday 09th June

Plastic Modelling Show

Presented by Guideline publications at the Islington Business Design Centre, 52 Upper Street, London, N1 0QH from 10am to 4pm. Admission is £6 adult, accompanied child under 16 free. Meet the editors and contributors, live demonstrations, and question and answer sessions.

See: www.guidelinepublications.co.uk, for further details.

Saturday 15th June

Scale Model Show 2013

Presented by the East Neuk Scale Model Club at the Old Church Centre, Kirk Wynd, Cupar, Fife, KY15 5AW from 10am to 4pm. Admission is £4 adult, £3 concession, £8 family with refreshments and free car parking.

Contact: Bruce on 01382 543104, for further details.

Sunday 16th June

MAFVA Nationals 2013

At the Imperial War Museum, Duxford, Cambridgeshire from 10am to 6pm. Special museum admission charges apply giving access to all exhibits, the annual military vehicle show and book fair as well as the MAFVA Nationals for £18.50 adult, £14.80 concession, children free with disabled access, restaurant and café, 'bring and buy' and a model competition.

See: www.mafva.net/nationals, for further details.

Sunday 23rd June

Model Show & Open Cockpit Day

Presented by Coventry & Warwickshire IPMS in association with the Midland Air Museum at the Midland Air Museum, Coventry Airport, Baginton, Warwickshire, CV3 4FR from 10am to 4pm. Normal museum admission applies and includes the model show with free parking, disabled access and refreshments.

Contact: ipms.covandwarks@hotmail.co.uk, for further details.

Sunday 23rd June

IVth Annual Model Show

Presented by West Norfolk IPMS at Downham Market Town Hall, Downham Market, PE38 9JS from 10am to 4pm. Admission is £2 adult, £1 concessions with under 5s free. Refreshments, Tombola and an open model competition all in aid of The Bridge for Heroes.

Contact: simon@tiscali.co.uk, for further details.

Saturday 29th June

It's a Small World!

Presented by the Orchards (Junior) Scale Modelling Club at the Orchards Shopping Centre, High Street, Dartford, Kent, DA1 1DN from 10am to 4pm. Admission is free.

Contact: Dominique Jadoul on 01634 788636, for further details.

July

Sunday 07th July

Moorlands Model Show

Presented by IPMS Staffordshire Moorlands in association with 235 (City of Stoke-on-Trent) Squadron ATC at the TA Centre, Waterloo Road, Cobridge, Stoke-on-Trent, ST6 3HJ from 10am to 4pm. Admission is £3.00 adult, £1.50 children and concessions. Free parking, disabled access, refreshments, club displays, trade stands and model competition.

See:

<http://smmc.moonfruit.com/#/home/4524932288>, for further details.

Sunday 07th July

smallspace 2

Presented by Matt Irvine at Hanslope Village Hall, Hanslope, Buckinghamshire, MK19 7NZ from 10 am. Admission is £2 adult, accompanied children under 16 free. Free car parking, refreshments, club displays, trade stands and full-sized exhibits.

See: www.hamex.co.uk, for further details.

Sunday 14th July

The Essex Modellers Show

Presented by Hornchurch Model Club, Southend Model Club, Essex MAFVA and Chelmsford Model Club at Hannakins Farm Community Hall, Rosebay Ave, Billericay, Essex CM12 0SZ from 10am to 4pm. Admission is £3.00 adult, £1.50 OAP and children. Refreshments, raffle, disabled access and ample free parking.

Contact: Jim Smith on 07787 381976, for further details.

Saturday 20th July

Figureworld

Presented by The Basement at the Great Hall, Oundle School, New Street, Oundle, Northamptonshire, PE8 4GH from 9.30am to 4pm. Admission is £3.00 adult, £1.50 concession. Free parking and refreshments.

Contact: adrianhopwood@hotmail.co.uk, for further details.

Sunday 28th July

Midland 2013 Model Expo

Presented by IPMS Birmingham at Cocks Moors Woods Leisure Centre, Alcester Road South, Kings Heath, Birmingham, B14 6ER from 10am to 4pm. Admission is £3.00 adult, £1.50 concession, £6.00 family. Free parking, disabled access, refreshments and model competition.

See: midlandexpo.blogspot.co.uk, for further details.

If you would like your event included in this show diary then please do not hesitate to contact me on 07841 417680 (note new number) or at 580modellers@gmail.com.



High Level Restoration at Newark Air Museum

By Howard Heeley

Thanks to the generous support of a local building contractor and the recent spell of good weather some high level restoration work has been undertaken on Handley Page Hastings TG517 at Newark Air Museum.

Utilising the loaned hydraulic platform ('cherry-picker') one of the museum's qualified operatives has been able to undertake some cleaning and repainting work on the prized veteran Hastings aircraft that saw service during both the Berlin Airlift and the Icelandic Cod War. If the weather holds it is hoped that further significant sections of the aircraft will be worked on in the coming weeks.

The museum trustees are particularly grateful to David Randall of Turnstyle Construction Ltd for the loan of the hydraulic platform.



The museum's Restoration Manager is pictured undertaking repainting the markings on the tail of Hastings TG517 (Howard Heeley)



In Print

Malta Spitfire Vs – 1942 – Their Colour & Markings

This subject has kept modellers occupied for decades. It was well known that these aircraft were repainted for service over the Mediterranean; the question has been – how and exactly when?

The author has looked at all the evidence, from photographs and personal memories, plus examination of surviving parts and has given us his personnel interpretation.

The book starts with the first delivery for 'Operation Spotter' on March 7th 1942. The aircraft was delivered in the standard desert scheme and overpainted on Malta, and what is intriguing is the fact they seem to have been painted differently – even aircraft in the same squadron. Sadly it seems that photographic evidence is only available for one of these aircraft – AB264 – and it appears that the Middle Stone was overpainted in a locally mixed dark grey. As well as photographs this aircraft is also one of the many chosen as a subject of a colour profile. There is controversy as to when some of this repainting occurred. Some Spitfires received colour alterations when on board the USS Wasp and in certain cases these were overpainted with US Non Specular Blue Grey. It is also suggested that some of the aircraft flying off the US carrier in dark blue, were in fact painted using available US Navy paint – i.e. Carrier deck paint. One of the schemes could be quite a challenge as the overpaint was sprayed very thinly so that the original scheme was still visible. Altogether there are



Author: Brian Cauchi
Publisher: Mushroom Model Publications
ISBN: 978 83 61421 79 5
Format: Softback, 168pp

twenty-nine colour profiles and attached to many of them are reminiscences of the pilots; in fact the book is full of contemporary quotes and even a delivery listing covering nine pages, which details the serial, mark, unit, code and eventual fate.

Mushroom have produced a gem with this one and the author is to be complimented on the way he has gone about his task. This book has to be top of the present list for any Spitfire enthusiast and I cannot recommend it enough.

www.mmpbooks.biz
Ernie Lee

Mikoyan-Gurevich MiG-21 Fishbed

Anyone with the slightest interest in Post War Russian aircraft will be familiar with this machine. Produced in vast numbers over the last fifty years, it saw service in forty-nine countries. The thirty-three series variants need a lot of book space, which of course is why they needed to produce such a hefty volume.

Nearly half of the pages are devoted to describing the variants, with the text enhanced by a considerable number of photographs in both monochrome and colour. The majority of the remaining pages chronicle its service, with just a short 'in detail' section.

Because of the number of variants, Richard Caruana needed three double-sided foldouts to produce the 1/72 scale drawings and he certainly had his work cut out producing the artwork. The inside cover has a four-view of a MiG-21SM of the Soviet Air Force and that is followed by forty-two colour profiles. It is quite impossible to comment on each and every one, but among the countries and air arms represented are the Ugandan People's

Defence Force, Bangladesh Air Force, Somali Aeronautical Corps, Angolan People's Air and Defence Force, Malagasy Air Force and the Air Force of the Republic of Mali. Do you see what I mean? I was not aware that some of these countries even had an Air Force. This book will be an inspiration to many of you and set you checking your kit stock, but if you need any more, then you will find the two-page list of kits, decals and accessories invaluable. The publisher is to be congratulated on producing yet another excellent piece of reference.

www.warpaint-books.com
Ernie Lee



Author: Vladimir Trendafilovskiy
Publisher: Warpaint Books Ltd
Format: Softback 124pp

The Bomber Command Memorial

This memorial has been a long time coming and at last the government has decided to issue a Bomber Command clasp to be worn on the 1939-1945 medal ribbon. I will not dwell on this, as I am sure that most of you will have strong views on the government attitude since 1945.

You will see from photographs that the memorial is a magnificent piece of sculpture. However the book is not just about that, but the men who took part in the campaign and their sacrifices.

The book is basically in two parts. The first discusses the memorial itself, the sculptor and the people who worked tirelessly to bring the whole project together – and I do not mean the establishment!

This is followed by a synopsis of bomber operations, interspersed with individual stories. As you must realise, many of these were of crewmen that did not return. Happily there are stories told by those who did survive. Even though the possibility of finishing a tour was slim, there were some remarkable stories. One such airman is Jack Watts DSO, DFC and Bar, a navigator in the Royal Canadian Air Force, who completed no fewer than 106 operations. It was on one of these operations that he was involved in an incident which may have resulted in saving a number of aircrew lives. With his crew he flew to Stuttgart in an Armstrong Whitworth Whitley. Because of bad weather conditions they ran out of



Authors: Robin Gibb, Jim Dooley, Gordon Rayner, Steve Darlow and Sean Feast
Publisher: Fighting High Ltd
ISBN: 978 0 9571163 1 3
Format: Hardback, 126pp

fuel on the way back and had to ditch in the sea. The wireless operator threw out the dinghy on its lanyard, but it failed to inflate. He managed to cut it free and inflate it manually. Back at base the malfunction was reported and it was discovered that all the lanyards were incorrectly installed on this squadron, which led to all of them being modified. There is much more to this story, which I suggest you read for yourself.

This is but one of the fascinating accounts of bravery of these men. The book is packed with photographs, both in monochrome and colour, and is an excellent tribute to this arm of the service in World War Two.

Soon all the veterans will be gone, but at least we have a lasting memorial and by having this book on your shelf you will have a reminder of what it was really like.

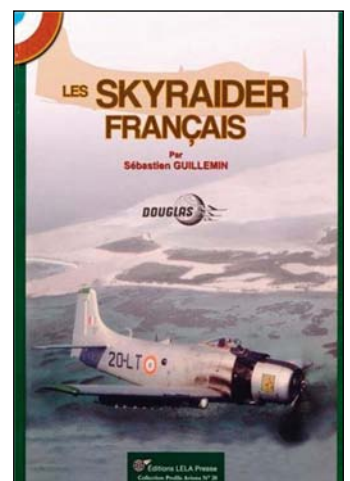
www.fightinghigh.com
Ernie Lee

Les Skyraider Francais

Lavishly illustrated French language profile packed with a plethora of photos both colour and black and white. Content includes history, production, support units, armaments, fighter squadrons, Skyraiders in Algeria, horn of Africa, Madagascar and Chad.

This really is a definitive book on the type in French service, so don't be deterred by the language if you don't speak French – the illustrations and tables offer you more than you will ever need to model the subject effectively.

www.avions-bateaux.com
Jack Trent



Author: Sébastien Guillemain
Publisher: LELA Presse
ISBN: 978 29140 176 57
Format: Hardback, 412pp

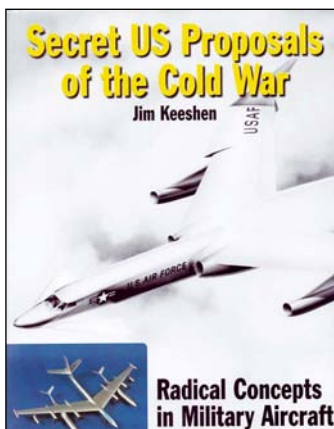
Secret US Proposals of the Cold War

Sub-titled 'Radical Concepts in Military Aircraft' we get a glimpse into the minds of some of the top designers in American aviation. There are a large number of illustrations, most of which are of models built by the respective companies. Building these models is big business, for instance Grumman employed eighty people producing them and they manufactured them for both wind tunnel testing and for display.

The preface and chapter 1 discuss modellers and model making and among the illustrations are products of the kit manufacturers, who are now beginning to realise the potential.

Although the majority are of German designs I doubt if it will be long before aircraft of other nations are produced.

Chapter 2 covers bombers, and the first aircraft that you come across will be familiar. It is the early thinking on the B-36, when they were still geared to defensive armament, circa World War Two. This



Author: Jim Keeshen

Publisher: Crécy Publishing Ltd

ISBN: 978 0 8597916 1 8

285mm x 220mm

Hardback 176pp

ever not before describing a real gem. This needs seeing to get the full impact, but imagine a twin-boom

design with the crew in the port boom. It was powered by four engines and carried a supersonic bomber under the centre section of the swept wing. This itself had considerable underwing components. Apart from two jet engines it had huge fuel tanks, plus tip tanks and an atomic bomb. This machine would be released near the target, jettison the tip tanks, release the bomb and head for home, dropping the wing tanks and underwing engines and continue on using an internal engine.

With this talk about the bombers I have hardly dented the surface. You will find flying boats, fighters, tilt-wing aircraft and some interesting helicopter designs, one of which folds its rotors and flies as a normal aircraft.

This is for the enthusiasts who think outside the box.

www.crecy.co.uk
Ernie Lee

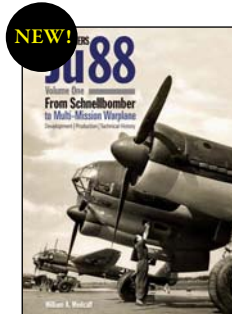


design had two top turrets, one dorsal and a tail turret. Some projects were designed as modifications to aircraft already in service, such as the Neptune, with contra-rotating turboprops and jet pods on the wingtips. It is amazing what the designers got up to! They even considered an interim Strategic Bomber, built around a beefed-up DC-67, sporting no fewer than six jet engines.

There are dozens more bomber concepts, and I must move on, how-

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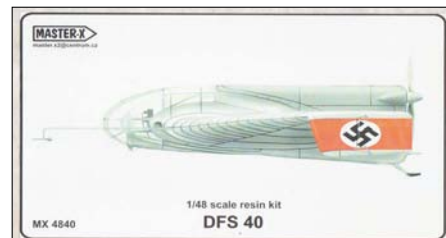
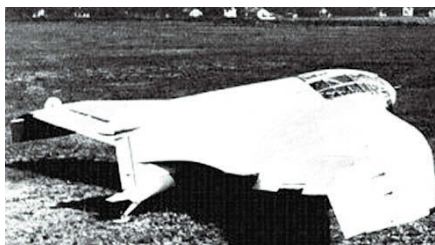
Model Aircraft is published monthly by Media House

Next issue on sale 27th June 2013.

DFS 40

The DFS 40 (originally developed as the Delta V) was a tail-less research aircraft designed by Alexander Lippisch in 1937 as a follow-on to his Delta IV aircraft. In construction, the DFS was more like a flying wing than its predecessor, and was intended to provide a comparison with that aircraft. The DFS 40 was flown for the first time by Heini Dittmar in 1939, shortly before Lippisch departed the DFS to begin work at Messerschmitt. Soon afterwards, without Lippisch there to supervise the project, the aircraft was crashed due to an error in centre of gravity calculations that resulted in it entering a flat spin during flight.

Master-X have come up with an intriguing kit that looks very tempting in the box, and includes some fine resin castings and a small etched fret. Vacform transparencies complete the parts count,



Scale: 1/48

Kit No: MX 4840

Price: TBC

Decal Options: N/A

Panel Lines: Recessed

Status: New Tooling

Type: Resin

Parts: Resin 26, Etched 17, Vacform Clear 2

Manufacturer: Master-X

Contact: mailto:master.x2@centrum.cz

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and a set of kabuki masks is provided.

This is one of those kits that it breaks the Editor's heart to pass on – but it cries out to be built so the Reviews team have liberated it from his clutches, and we hope to feature a build before too long.

Next Month in Model Aircraft

A wide range of aviation and modelling subjects covered, including:

Airwars Air Arms

The Swedish Air Force

Polish Fulcrum

Eduard's kit in 1/48

Russian Oddity

The IL-40 in 1/72 from the A Model kit

Foreign Spitfires

The journey continues

Getting the Low-Down on the MH-53J

Plus all our usual news, pre-views, columns and regulars



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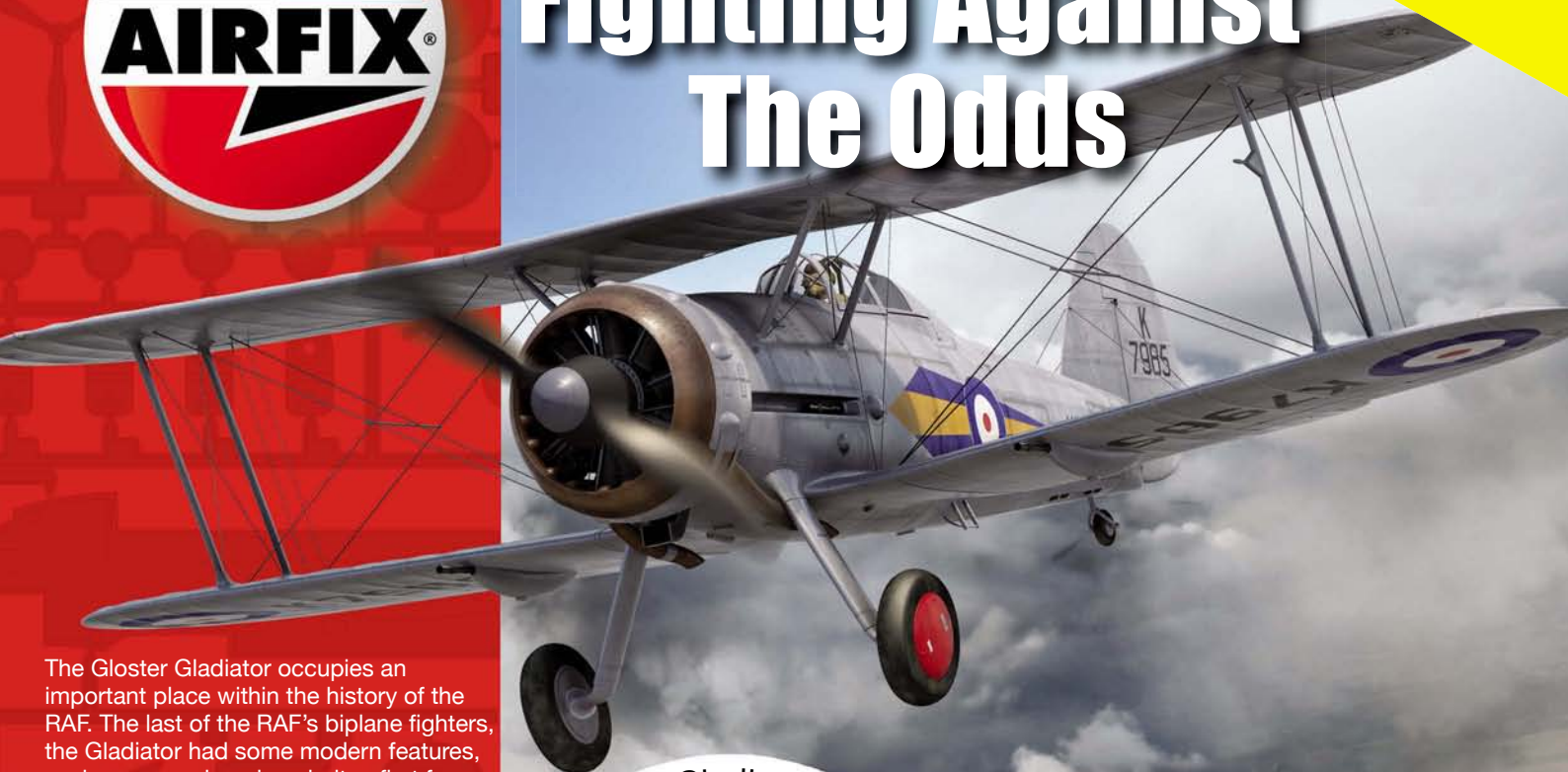


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A02052 Scheme A K7985 (L8032/G-AMRK) of the Shuttleworth Collection, Shuttleworth (Old Warden) Aerodrome, Bedfordshire, England, 2012.



A02052 Scheme B No.1 Fighter Squadron, Aer Chór na hÉireann (Irish Air Corps), Baldonnel Aerodrome, Ireland, 1940.



A55206 Scheme Flying Officer Marmaduke Thomas St. John 'Pat' Pattie, No.80 Squadron, Royal Air Force, Amriya, Egypt, Spring 1940.

Gloster Gladiator Mk.I Starter Set



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